DOCUMENT RESUME

ED 334 418 CE 058 467

AUTHOR	Miller, W. Wade; And Others
TITLE	Marketing Agricultural Products. Curriculum Guide Developed for Secondary and Post Secondary Agriculture Programs.
INSTITUTION	Iowa State Univ. of Science and Technology, Ames. Dept. of Agricultural Education.
SPONS AGENCY	Iowa State Dept. of Education, Des Moines. Bureau of Career Education.
PUB DATE	Jun 88
NOTE	403p.
AVAILABLE FROM	Iowa Curriculum Assistance System, N008 Lagomarcino Hall, Iowa State University, Ames, IA 50011 (guide and related diskettes).
PUB TYPE	Guides - Classroom Use - Teaching Guides (For Teacher) (052)
EDRS PRICE	MF01/PC17 Plus Postage.
DESCRIPTORS	*Agricultural Education; *Agricultural Production; Behavioral Objectives; Classroom Techniques; Course Content; Distributive Education; *Exports; Learning Activities; Lesson Plans; *Marketing; Postsecondary Education; Secondary Education; Teaching Methods; Test Items; Transparencies; Units of Study; Vocational Education
IDENTIFIERS	*Pricing

ABSTRACT

This curriculum guide can be used by secondary and postsecondary agriculture instructors for a semester course in marketing agricultural products or individual units can be incorporated in other courses. The curriculum guide consists of six units of study made up of two to eight lessons each. The units cover the following topics: (1) marketing principles; (2) analyzing marketing and pricing alternatives; (3) marketing, pricing, and grading agricultural products; (4) sources of market information and use of marketing advisory services; (5) world export markets; and (6) developing and expanding agricultural markets. Lessons contain objectives, materials/references needed, transparency masters, interest approach, questions and answers, student activities, tests with answers, and a conclusion. (Diskettes are available for this course for economic simulation games and Appleworks spreadsheets.) (KC)

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MARKETING AGRICULTURAL PRODUCTS

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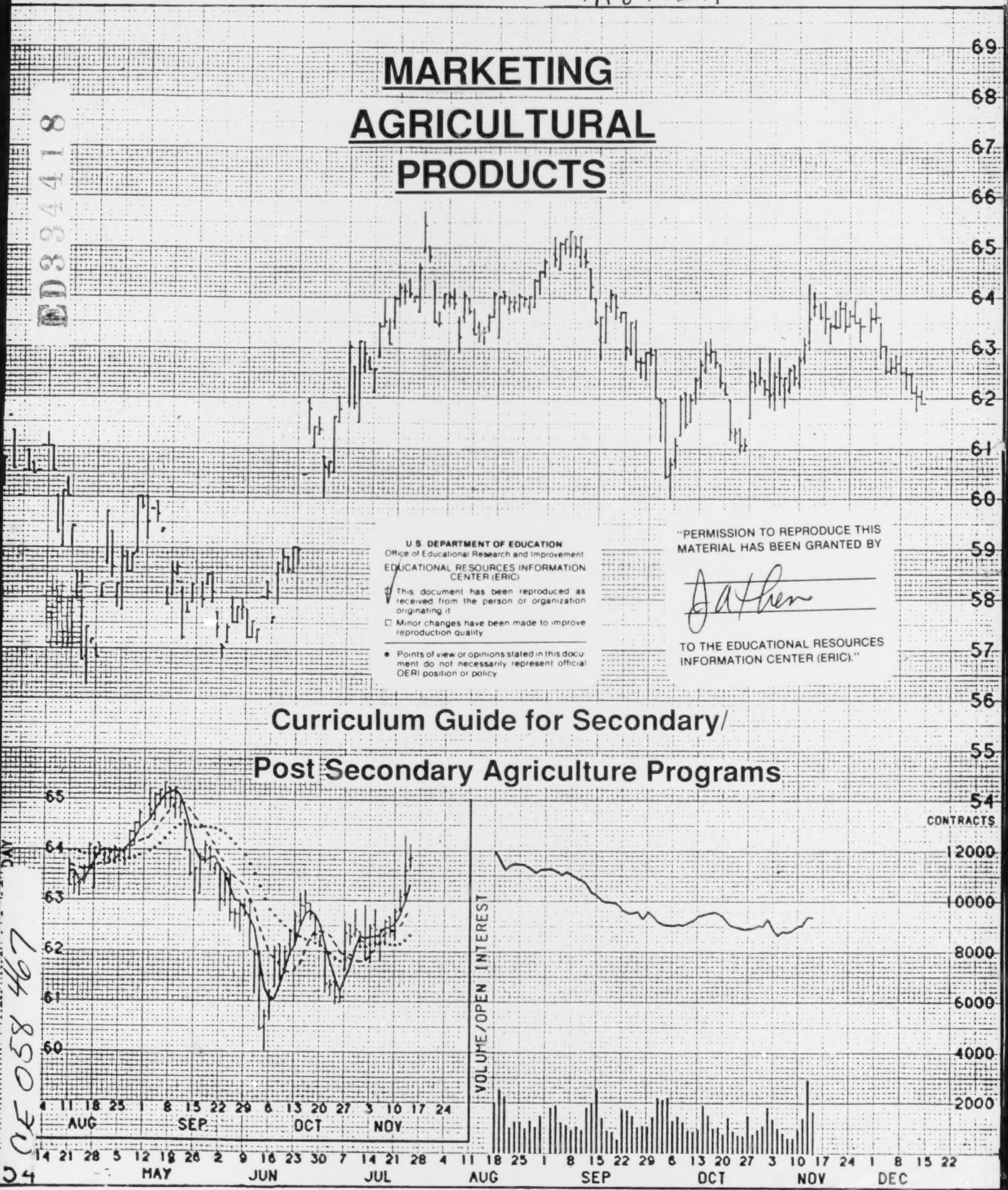

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MARKETING AGRICULTURAL PRODUCTS

Curriculum Guide Developed for Secondary and
Post Secondary Agriculture Programs

Developed by:

Department of Agricultural Education
Iowa State University
Ames, Iowa 50011

Funded by:

Department of Education
State of Iowa
Des Moines, Iowa 50319

Authors:

W. Wade Miller, Project Director
Larry D. Trede, Project Director
Martin J. Frick, Project Coordinator
John A. Anderson, Writer
Charles E. Boese, Writer
Steven K. Vogelzang, Writer

Additional Copies Available From:

Iowa Curriculum Assistance System
N008 Lagomarcino Hall
Iowa State University
Ames, IA 50011
(515) 294-8919

June, 1988

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MARKETING AGRICULTURAL PRODUCTS
HOW TO USE THIS CURRICULUM GUIDE

This curriculum guide is intended to be used by secondary and post secondary agriculture instructors. It can be used in total as a semester course in Marketing Agricultural Products or individual units and lessons can be used in existing courses.

This curriculum guide is not intended to be self-contained or all-inclusive. The lessons are based on the technical content from the references listed for each lesson. Before using any lesson from this curriculum guide, the instructor is advised to purchase and read the references for that lesson. In addition, the instructor should examine the student activities listed for each lesson and decide which ones may be feasible to accomplish. Each unit includes objectives, materials/references needed, visual masters and/or hand outs, interest approach, questions, student activities, and a quiz. A suggested procedure for developing a lesson is listed below:

1. Select and read a lesson from the guide.
2. Obtain and read the references listed for the lesson.
3. Select appropriate activities for the lesson.
4. Write a teaching plan for the lesson; include the following
    a. Objectives or study questions
    b. Student references and instructional materials
    c. Interest approach
    d. Learning Activities (study questions, reading assignments, problems, activities)
    e. Summary, Conclusion, Application (activities and assignments)
    f. Evaluation (assignments and/or test)

Since economics and marketing is not a "hands-on" subject when compared to some other areas of agriculture it is suggested that the instructor use a teaching method other than the lecture. Reading assignments and study guides, class discussion, and class activities should be employed. A suggested teaching procedure could include the following:

1. Use an interest approach to get the students' attention and develop their interest.
2. Have the students read the appropriate references and answer specific questions.
3. Discuss the questions and answers with the students.
4. Use one or more activities to involve the students.
5. Provide the students an opportunity to demonstrate their understanding of the topic.

MARKETING AGRICULTURAL PRODUCTS
FUNDING AND ACKNOWLEDGEMENTS

Project Funding:

Funding for the development of this curriculum guide came from the Iowa Department of Education through a grant to the Department of Agricultural Education. It was developed by the project staff of Iowa Agriculture and Home Economics Experiment Station, Project 2617.

State of Iowa
Department of Education
Grimes State Office Building
Des Moines, Iowa 50319-0416

Office of the Director:

William L. Lepley, Director
David Bechtel, Special Assistant - Policy and Budget
Mavis Kelly, Special Assistant - State Board and External Relations

Division of Instructional Services:

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Mary Robinson
Ann Wickman
George Wilson

Project Advisory Committee:

The following persons and the organizations they represent made valuable contributions to this project.

Craig Chase, Extension Specialist, Iowa State University
Nancy Degner, Iowa Beef Industry Council
Ron Deiter, Economics, Iowa State University
Jim Green, Agriculture Instructor, Riceville
Brad Greiman, Agriculture Instructor, Algona and Agriculture Curriculum Cadre.
Marshall Inman, Iowa State Dairy Association
Ed Lowe, Director, Marketing Division, Iowa Department of Agriculture
Wayne Nattress, Agriculture Consultant, Department of Education
Steve Peterson, Iowa Soybean Association
Bob Skinner, Iowa Grain and Feed Association
Evan Staldman, Iowa Corn Growers Association

Organizations:

The following organizations are gratefully acknowledged for their contributions to this project through use of their materials and expertise:

Iowa Cooperative Extension Service
Iowa Association of Vocational Instructional Materials
Iowa Agriculture and Home Economics Experiment Station (Project 2617)
Department of Agricultural Education, Iowa State University
Data Transmission Network (DTN), Ames, IA
Wallace's Farmer
Farm Futures Magazine
Iowa Corn Promotion Board
Iowa Soybean Promotion Board
Chicago Board of Trade
Chicago Mercantile Exchange
Instructional Materials Laboratory, Columbia, MO
Missouri Cooperative Extension Service
World Food Institute, Ames, IA
Harvard Business School
Doane-Western, Inc., St. Louis, MO
Michigan State Extension Service
United States Department of Agriculture
Iowa Department of Agriculture
Meat Export Research Center, Iowa State University
Evans and Associates
Iowa Farm Business Association
Food Crops Processing Research Center, Iowa State University
AgriData Resources Inc., Milwaukee, WI
National 4-H Council
Southeast Missouri Center for Economic Education, SEMO University

UNIT 1: Marketing Principles

LESSON 1: Marketing and marketing systems?

OBJECTIVES:

After completion of this lesson, the students will be able to:

1. Define the terms "marketing" and "market."
2. List seven factors involved in marketing.
3. List three problems involved in the marketing system.
4. Define who is involved in the marketing system.
5. List the general goals of a marketing system.
6. Define the economic conditions that affect the market?

MATERIALS/REFERENCES NEEDED

1. "Student Reference for Agricultural Marketing," Robert Denker, Ag. Ed. University of Missouri-Columbia, Volume 12 #10, Nov. 1979, Pages 1-11.
2. "Commodity Marketing," Besasnt, Lloyd, Sparks, Patricia, Chicago Board of Trade and National 4-H Council. Pages 1-9.

VISUAL MASTERS:

VM-1 Definition of the term Market and Marketing

VM-2 Factors involved in the marketing process

VM-3 Who is involved in the marketing system

VM-4 Economic conditions that effect marketing

INTEREST APPROACH:

Identify two students in your class with different SOE programs (Business, Ownership, etc.). Ask them to identify the different markets that are present in each situation. Have them list what is offered for sale and how the consumer can help create price. Identify similarities between each market.

QUESTIONS:

1. **Define the terms marketing and market.**

   Answer:

   Marketing may be defined as all the steps and processes in getting the product from the producer to the consumer.

   The definition of market, however, differs from that of marketing. The term market may mean many things to many people. Generally the term means a place where items are bought and sold.

2. **What functions are involved in marketing?**

   Answer:
   - Transportation
   - Packaging
   - Pricing
   - Promoting
   - Processing
   - Storage
   - Financing
   - Retailing
   - Assembly

3. **What are some farm marketing problems?**

   Answers:

   A. Specialization in agriculture - only one or two sources of income per farm unit. Can result in large year to year variations in income

   B. Food production is a biological process, therefore, supply is hard to control.

   C. Farm products lack individual identity. The availability to ship similar products many miles will tend to keep prices in a local area from rising/falling respective of surrounding areas.

   D. Different market system for labor.
   The amount and type of product purchased by the farmer is highly related to the price of the product to the consumer (price-sensitive). Whereas, the price of services from doctor to doctor or teacher to teacher is not discriminated by price.

4. **What three sectors are involved in the agricultural marketing system?**

Answers:
- A. Farmers
- B. Agribusiness
  1. wholesalers
  2. retailers
  3. transporters
- C. Consumers

5. **What are the goals of a marketing system?**

Answers:

A. Farmers' generally desire a marketing sytem to:

1. Treat all producers equitably.
2. Provide adequate prices in view of production costs
3. Reflect to them the quality-price differentials paid by consumers
4. Provide access to convenient market outlets
5. Provide a viable choice among competing buyers
6. Create the ability to move to the market and/or sell any amount they may choose at any time

B. Agribusiness firms expectations vary according to company size and complexity

C. Consumers expect adequate supplies of high quality food at reasonable prices. They also want a variety of products and convenience.

6. **What economic conditions affect marketing?**

Answer: Supply and demand are affected by:
- A. Price
- B. Surplus
- C. Shortage
- D. Competition
- E. Cost of inputs
- F. Cost of related goods
  1. substitutes
  2. complements
- G. Changes in consumer tastes
- H. Weather
- J. Technology

STUDENT ACTIVITIES:

1. Have each student bring old magazines to class to create a collage of the factors involved in marketing. Use these to create a class bulletin board.
2. Have the students read the information sheet on consumers and the market, and have them react with an essay on the paper.
3. Have the students identify and list all the markets for agricultural products in the local area. The student should compare their individual answers and come up with a class list.
4. Select two or three markets in your area. (Try to vary the kind of market, for example, a sale barn, a grocery store, and a television repair shop.) Compare them to see how they differ with respect to how the market is defined, what's offered for sale, and how you, the consumer, can help create price.
5. Talk to several agribusiness managers to find out how volume of sales affect price. Have the student give an oral report to the rest of the class on their findings on the subject.

CONCLUSION

Marketing involves all the steps between the producer and the consumer. In a marketplace, price is created. Price performs two important functions: it provides information and creates incentives. Farmers, alone, are not the only ones involved in the marketing process. Consumers, and agribusiness are also involved in marketing.

Unit One
Lesson One

KNOWLEDGE ANALYZER

Name:

Multiple Choice (circle the letter before the best answer)

1. Marketing can be defined as:
    a. all the steps and processes involved in getting the product from the producer to the consumer.
    b. delivering grain to an elevator.
    c. receiving a larger share of the consumer's food dollar.
    d. none of the above.

2. The largest item in the marketing margin for farm products is:
    a. transportation
    b. advertising
    c. labor costs
    d. corporate profits
    e. none of the above

3. Compared to 1960, the current percent of income spent for food in the United States is:
    a. higher
    b. lower
    c. about the same

True or False (circle T or F)

T F 4. Farmer's income would be higher if they obtained a larger share of the consumer's food dollar.

T F 5. The amount of processing in a product affects the marketing margin.

T F 6. Agribusiness firms exert strong forces upon the type of market options open to farmers.

T F 7. Pricing is one function of marketing.

T F 8. T-bone steak at $2.00 per pound when fat steers are 40 cents per pound is a good example of excessive profits for meat packers.

T F 9. The agricultural marketing system involves only farmers and agribusinesses.

T F 10. Weather affects the demand for a commodity.

Unit One
Lesson One

ANSWERS TO KNOWLEDGE ANALYZER

1. A
2. C
3. B
4. FALSE
5. TRUE
6. TRUE
7. TRUE
8. FALSE
9. FALSE
10. FALSE

Definition of the terms Market and Marketing

Market

Generally, the term means a place were items are bought and sold.

Marketing

All steps and processes in getting the product from the producer to the consumer.

Factors involved in the marketing process

Transportation

Packaging

Pricing

Promoting

Processing

Storage

Financing

Retailing

and More

Who is involved in the marketing system?

Farmers

Agribusiness

Consumers

Economic Conditions that affect Marketing

. Supply and Demand

. Price

. Surplus

. Shortage

. Competition

. Cost of inputs

. Costs of related goods

. Changes in consumer tastes

UNIT 1: Marketing Principles

LESSON 2: Factors that affect marketing.

OBJECTIVES:

After completion of this unit, the students will be able to:

1. List the economic principles that affect agricultural marketing.
2. Define and explain the terms supply and demand.
3. List and explain the factors that affect supply and demand.
4. Identify the governmental regulations that affect the agriculture market.

MATERIALS/REFERENCES NEEDED:

1. "Shifty" computer simulation for Student Activity 1.
2. "Student Reference for Agricultural Marketing," Robert Denker, University of Missouri-Columbia, Volume 12#10, Nov. 1979, Pages 1-11.
3. "Commodity Marketing," Lloyd Bersant, Patricia Sparks, Chicago Board of Trade and National 4-H Council, Pages 11-17.

VISUAL MASTERS:

VM-1 Definition of supply and demand

VM-2 Graph of Supply and Demand Chart

VM-3 The Effect of Increased Input Costs on Supply

VM-4 The Effect of an Increase in the Price of Complementary Goods on Demand

INTEREST APPROACH:

Identify a student who would like to buy some type of transportation. Explain that you have a car for sale while another instructor has a motorcycle for sale. Ask the class to identify the supplier, the consumer, and the competition that exists within the situation. Explain that the student wanting to purchase transportation is the consumer, the other teacher and yourself are the suppliers (sellers), and that competition exists between the motorcycle and the car.

QUESTIONS:

1. **What are the economic principles that affect marketing?**

   Answer: A. Supply
   B. Demand

2. **What is the definition of supply and demand? VM-1**

   Answer:
   A. Supply is usually considered the amount of product that is held for sale.
   B. Demand is how much product people are willing to buy.

3. **How do these economic principles work together? VM-2**

   Answer: Supply and demand work in conjunction with each in order to form a price level at which a product can both be bought and also sold for. Equilibrium price is the price at which the supply side and the demand side come to rest. It is at this point that a price can be set. The best way to look at these two factors is in terms of a graph. Refer to VM-2. The supply line is identified by line one and the demand line by line 2.

4. **Identify factors that affect the supply of a product?**
   Answer:

   A. Prices of related product--a change in the prices of related goods can affect the supply of products. When two products can be used or produced interchangeably, a change in one's price may affect the supply of both. Ex. when a farmer switches from corn production to soybean production because of the potential for increased profit from soybeans. In this case the supply of soybeans increase while the supply of corn decreases.

   B. Input cost - if the price of an ingredient in a particular product rises, its manufacturers will be less willing to produce that product at the current selling price. Example: If the cost of sugar goes up in a candy bars the price of the candy bars is likely to rise. VM-3

   C. Technology - generally, as technology improves, the cost to produce goods and services is reduced.

D. Weather - weather is important factor in the supply of grain and livestock.

5. **What are three factors that affect demand for a product?**

Answer:
A. As the income of people rise the demand for goods and products increase. However, when the income of people goes down the demand for goods and products goes down also.
B. Prices of related products (complementary and/or substitute products) - A change in the price of one consumer good can affect the demand for another good. Example: As gas prices rose, the demand for large, "gas-guzzling" cars decreased. The demand for gas-efficient cars increased during the same time. VM-4
C. Changes in consumer tastes - The tastes for some goods can be quite changeable. Consequently, the demand for these goods will fluctuate accordingly. Example: The current trend for red meat. this could mean less consumption of red meat and a decline in the demand for it.

6. **Discuss the current farm program, what policy regulation will be for the next two years?**

Answer: Governmental programs and regulations are changing so fast that it is impossible to know how this effects marketing. In preparation to answer this question the agricultural instructor should obtain details about the program in order to discuss the question.

STUDENT ACTIVITIES:

1. Shifty is a computer simulation utilizing the supply and demand curve. Options are given at the beginning of the simulation that will affect the position of the supply curve. After selecting your option, the program will ask how you think the supply curve will respond. The computer will then ask questions on how the price and quantity will be affected. Points will be awarded for correct answers and a message asking to try harder will appear for wrong answers. The computer will go through the same series of questions for the demand side. Within the shifty documentation are addition methods for class activities. For this student learning activity play the computer simulation "Shifty." This game will help students understand the difference and relationship of supply and demand, and the affects of other factors on them. It is

recommended the instructor practice "Shifty" prior to implementing this activity with the student.

2. Compare the prices of several foods in the U.S. to the prices of the same foods in another country or in several other countries. Have supply and demand influenced the price of the food? What specific factors have affected the price?

3. Interview farmers in your area and find out how government farm programs have affected what and how much they produce.

4. For AgriData (AgEd Network) subscribers. Use one of the lessons from the Supply/Demand series such as Understanding Corn Demand (HS225) or Understanding Hog Demand (HS365).

CONCLUSION

The main focus of this lesson is the interaction between supply and demand. Many factors affect supply and demand. By comparing the intersection of supply and demand one can determine the price and the quantity that is being produced.

Unit One
Lesson Two

KNOWLEDGE ANALYZER

Name:

SHORT ANSWER (answer in the space provided)

1. What is the definition of supply?

2. What is the definition of demand?

3. What two important functions does price perform?

    a.

    b.

MULTIPLE CHOICE (circle the letter before the best answer)

4. The point where supply and demand meet is
    a. information price
    b. incentive price
    c. perfect price
    d. equilibrium price

5. What factor does not affect the demand for a product?
    a. input costs
    b. price of substitute goods
    c. income
    d. consumer tastes

6. Which factor affects the supply of agricultural commodities more that industrial goods?
    a. technology
    b. weather
    c. inputs
    d. cost of related goods

7. If corn prices rise, buyers may substitute corn with
    a. soybeans
    b. sunflowers
    c. grain sorghum
    d. wheat

8. If the price of corn used for feed drastically decreases, the demand for soybean meal will
    a. rise
    b. fall
    c. stay the same

9. If corn prices are very low for a long period of time, the supply of hogs will
    a. rise
    b. fall
    c. stay the same

TRUE AND FALSE (circle T or F)

T F 10. Grain commodities respond quickly to changes in supply and demand due to consumer costs.

Unit One
Lesson Two

ANSWERS TO KNOWLEDGE ANALYZER

1. Supply is the quantity of a good or service that individuals(or producers) are willing and able to sell at various prices at a given time.

2. Demand is the amount of a good or service that individual (or consumers) are willing and able to purchase at various prices at a given time.

3. Price performs to two important functions that help prevent market chaos -- information and incentives.

4. D

5. A

6. B

7. C

8. A

9. A

10. FALSE

SHIFTY

Objectives:	The purpose of this activity is to allow you to show what happens to the equilibrium price and quantity in a market if factors change that will shift the supply and demand curve.
Materials:	Student work sheets Program Disk
Procedures:	Turn monitor on Place Program Disk in Drive 1 Turn computer on Program MENU will load automatically Use the arrow keys (<--, -->) to light up <SHIFTY>, then press the return key

Let's work through SHIFTY together.

(1) Read the Introduction. Depress the <RETURN> key

The program will display a (A) SUPPLY CURVE, a (B) DEMAND CURVE, and (C) BOTH. Space is provided at the right to record what affect the shift in the Supply and Demand curves will have on the Equilibrium Price and Quantity, and to display the points earned.

(2) SUPPLY CURVE-- We will select one of the items listed below that will shift the supply curve. Read each item and its explanation.

None	means do not shift the supply curve
Taxes	Expense (cost) of Business
$Complement	Price of a good that is made with the first
$Substitute	Price of a good that is made instead
$Sellers	Number of sellers in market
Input Cost	The cost of resources--materials used in producing the good

Use the arrow key (<--, -->) to light up SELLERS. Depress the <RETURN> key.

(3) The program will display the item selected and ask for the type of change (Increase - Decrease). Use the arrow keys to light up INCREASE and then depress the <RETURN> key.

(4) The program now asks you to show which way the Supply Curve will SHIFT. Note the arrow keys above the Supply Curve are lit. Depress the Right --> key once or twice to move the curve to the right-- an increase, the left <-- key once or twice to move one curve to the left--a decrease. As you depress the right or left arrow key, a new supply curve

(broken line) is displayed. Since an increase in the number of sellers will increase the supply, depress the --> key once and depress the <RETURN> key.

If you make an incorrect selection, the program will automatically call this to your attention--bottom of screen--and display the correct selection. You will not be awarded points for the incorrect response.

(5) The program asks you to indicate what happens to Equilibrium Price (P). Analyze the new supply curve. The curve indicates a decrease in price. Depress the arrow keys until a down arrow is displayed. Depress the <RETURN> key. The program will indicate if you made a correct or incorrect response.

The program asks you to indicate what happens to the Quantity (Q). The curve indicates an increase in quantity. Depress the arrow keys until an up arrow is displayed. Depress the <RETURN> key.

(6) DEMAND CURVE--Follow the same procedure as with the Supply Curve.

Select an item that will shift the demand curve. Read each item and its explanation.

None	means do not shift demand curve
Income	buyer's income changes
Complement	price of a good consumed with this one
Substitute	price of a good consumed instead of this one
Buyer	number of buyers in the market
Taste	buyer preference for this item

Use the arrow keys (<--, -->) to light us TASTE. Depress the <RETURN> key.

(7) Program will display the item and ask for the type of change. Use the arrow keys to light up INCREASE. Depress the <RETURN> key.

(8) You must now indicate which way the Demand Curve will shift. As with the Supply Curve, depress <-- to show a decrease, the --> to show an increase. The increase in preference for this item increases the demand. Depress the --> once or twice (your choice). Depress the <RETURN> key.

(9) Use arrow keys to show what happens to Equilibrium Price. Ignore any previous changes in the supply curve, just use the new demand curve displayed. The new curve indicates an increase in the amount people are willing to pay for this product. Depress the arrow keys until an up arrow is displayed. Depress the <RETURN> key.

Next we show what happens to Quantity. The new curve indicates an increase in amount the people are willing to buy at new prices. Depress arrow keys until an up arrow is displayed. Depress the <RETURN> key.

(10) BOTH--The new Supply and Demand curves are plotted on the lower graph. Analyze where the new curves intersect (Equilibrium Price) in regards to the Equilibrium Price as shown on the original Supply and Demand curve.

Since the new curves indicate an increase in price, use the arrow keys to display an up arrow. Depress the <RETURN> key.

The new curves also indicate an increase in quantity as a result in the SHIFT of the Supply and Demand curves. Depress the arrow keys until an up arrow is displayed. Depress the <RETURN> key.

(11) Your score (2 points for each right answer) of 16 should be displayed in the bottom right side of the screen.

(12) The program will ask you if you wish to keep playing. If <YES>--press <RETURN>, if not, press arrow key to light up <NO>. Depress the <RETURN> key. If you select <NO> the program will display the number of points scored along with the total points possible.

Suggestions for Supplementary Materials that may be developed to be completed by the students to prepare them to use program and to be used while running the program.

1. Puzzles
2. Crossword pzzles
3. Games
4. Simulation
5. Case studies
6. Role pay
7. Matching terms
8. Forms students may record results of program
9. Questions concerning concepts being developed by the CAI program
10. Definitions

1.20

Classroom Activity Name:______________________________Date:_______
Page 1

Determine and record in spaces provided what happens after making the selections indicated.

(1)	Supply Curve	Demand Curve	Combine
	Item: Taxes	Item: Income	Equil.Price
	+ or -: +	+ or -: +	Quantity:
	Shift: _	Shift: _	
	Price: _	Price _	
	Quantity:_	Quantity:_	
(2)	Supply Curve	Demand Curve	Combine
	Item: Complement	Item: Buyer	Equil.Price
	+ or -: +	+ or -: -	Quantity:
	Shift: _	Shift: _	
	Price: _	Price _	
	Quantity:_	Quantity:_	
(3)	Supply Curve	Demand Curve	Combine
	Item: Substitute	Item: Taste	Equil.Price
	+ or -: +	+ or -: -	Quantity:
	Shift: _	Shift: _	
	Price: _	Price _	
	Quantity:_	Quantity:_	
(4)	Supply Curve	Demand Curve	Combine
	Item: Seller	Item: Income	Equil.Price
	+ or -: -	+ or -: +	Quantity:
	Shift: _	Shift: _	
	Price: _	Price _	
	Quantity:_	Quantity:_	
(5)	Supply Curve	Demand Curve	Combine
	Item: Input Cost	Item: Complement	Equil.Price
	+ or -: +	+ or -: +	Quantity:
	Shift: _	Shift: _	
	Price: _	Price _	
	Quantity:_	Quantity:_	

Record the total points as shown on the screen in the right hand corner: ___

Page 2

(6)

Supply Curve	Demand Curve	Combine
Item: Taxes	Item: Income	Equil.Price
+ or -: -	+ or -: +	Quantity:
Shift: _	Shift: _	
Price: _	Price _	
Quantity: _	Quantity: _	

(7)

Supply Curve	Demand Curve	Combine
Item: Seller	Item: Taste	Equil.Price
+ or -: -	+ or -: -	Quantity:
Shift: _	Shift: _	
Price: _	Price _	
Quantity: _	Quantity: _	

(8)

Supply Curve	Demand Curve	Combine
Item: Complement	Item: Substitute	Equil.Price
+ or -: +	+ or -: +	Quantity:
Shift: _	Shift: _	
Price: _	Price _	
Quantity: _	Quantity: _	

(9)

Supply Curve	Demand Curve	Combine
Item: Taxes	Item: Complement	Equil.Price
+ or -: -	+ or -: +	Quantity:
Shift: _	Shift: _	
Price: _	Price _	
Quantity: _	Quantity: _	

(10)

Supply Curve	Demand Curve	Combine
Item: _	Item: _	Equil.Price
+ or -: _	+ or -: _	Quantity:
Shift: _	Shift: _	
Price: _	Price _	
Quantity: _	Quantity: _	

RECORD THE TOTAL POINTS AS SHOWN ON THE SCREEN ____________

Submit the work sheets to your instructor.

Evaluation: Demonstrated by completing the assigned work sheets

S H I F T Y
ANSWER KEY

Page 1

Determine and record in space provided what happens after making the elections indicated.

(1)

Supply Curve		Demand Curve		Combine	
Item:	Taxes	Item:	Income	Equil.Price	+
+ or -:	+	+ or -:	+	Quantity:	?
Shift:	<--	Shift:	-->		
Price:	+	Price	+		
Quantity:	-	Quantity:	+		

(2)

Supply Curve		Demand Curve		Combine	
Item:	Complement	Item:	Buyer	Equil.Price	-
+ or -:	+	+ or -:	-	Quantity:	?
Shift:	-->	Shift:	<--		
Price:	-	Price	-		
Quantity:	+	Quantity:	-		

(3)

Supply Curve		Demand Curve		Combine	
Item:	Substitute	Item:	Taste	Equil.Price	?
+ or -:	+	+ or -:	-	Quantity:	-
Shift:	<--	Shift:	<--		
Price:	+	Price	-		
Quantity:	-	Quantity:	-		

(4)

Supply Curve		Demand Curve		Combine	
Item:	Seller	Item:	Income	Equil.Price	+
+ or -:	-	+ or -:	+	Quantity:	?
Shift:	<--	Shift:	-->		
Price:	+	Price	+		
Quantity:	-	Quantity:	+		

(5)

Supply Curve		Demand Curve		Combine	
Item:	Input Cost	Item:	Complement	Equil.Price	?
+ or -:	+	+ or -:	+	Quantity:	-
Shift:	<--	Shift:	<--		
Price:	+	Price	-		
Quantity:	-	Quantity:	-		

Record the total points as shown on the screen in the right hand corner: ____

Page 2

(6)	Supply Curve		Demand Curve		Combine	
	Item:	Taxes	Item:	Income	Equil.Price	?
	+ or -:	-	+ or -:	+	Quantity:	+
	Shift:	-->	Shift:	-->		
	Price:	-	Price	+		
	Quantity:	+	Quantity:	+		
(7)	Supply Curve		Demand Curve		Combine	
	Item:	Seller	Item:	Taste	Equil.Price	?
	+ or -:	-	+ or -:	-	Quantity:	-
	Shift:	<--	Shift:	<--		
	Price:	+	Price	-		
	Quantity:	-	Quantity:	-		
(8)	Supply Curve		Demand Curve		Combine	
	Item:	Complement	Item:	Substitute	Equil.Price	+
	+ or -:	+	+ or -:	+	Quantity:	?
	Shift:	<--	Shift:	<--		
	Price:	+	Price	+		
	Quantity:	-	Quantity:	+		
(9)	Supply Curve		Demand Curve		Combine	
	Item:	Taxes	Item:	Complement	Equil.Price	?
	+ or -:	-	+ or -:	+	Quantity:	-
	Shift:	<--	Shift:	<--		
	Price:	+	Price	-		
	Quantity:	-	Quantity:	-		
(10)	Supply Curve		Demand Curve		Combine	
	Item:	Substitute	Item:	None	Equil.Price	
-	+ or -:	-	+ or -:	_	Quantity:	+
	Shift:	-->	Shift:	_		
	Price:	+	Price	_		
	Quantity:	_	Quantity:	_		

RECORD THE TOTAL POINTS AS SHOWN ON THE SCREEN ___________

Submit the work sheets to your instructor
Evaluation: Demonstrated by completing the assigned work sheets

Definition of Supply and Demand

Supply

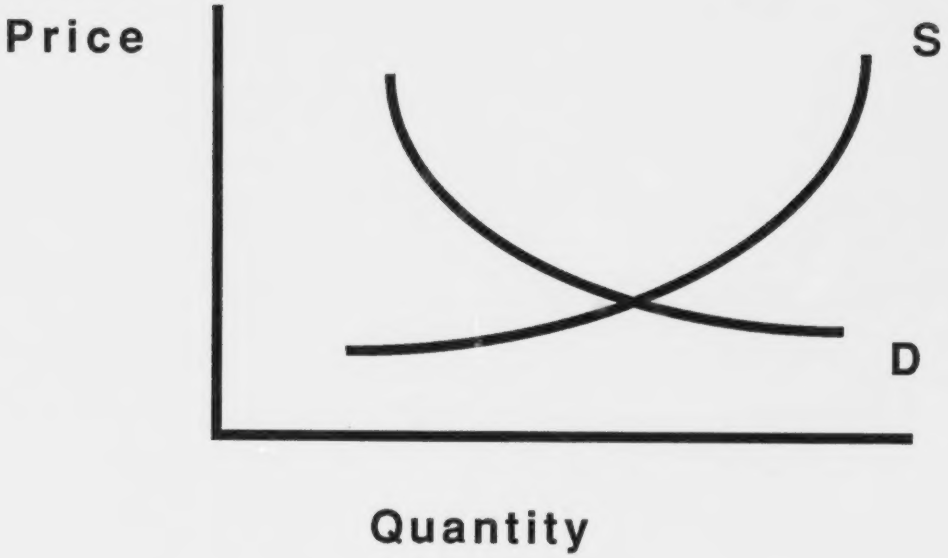
The amount of the product that is held for sale.

Demand

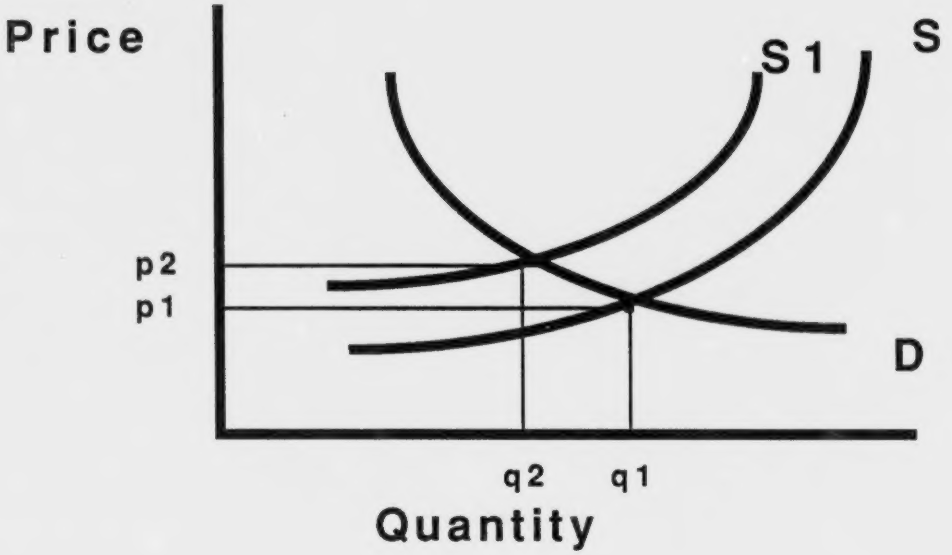
How much product people are willing to buy.

Unit 1
Lesson 2
VM 2

Graph of Supply and Demand Chart

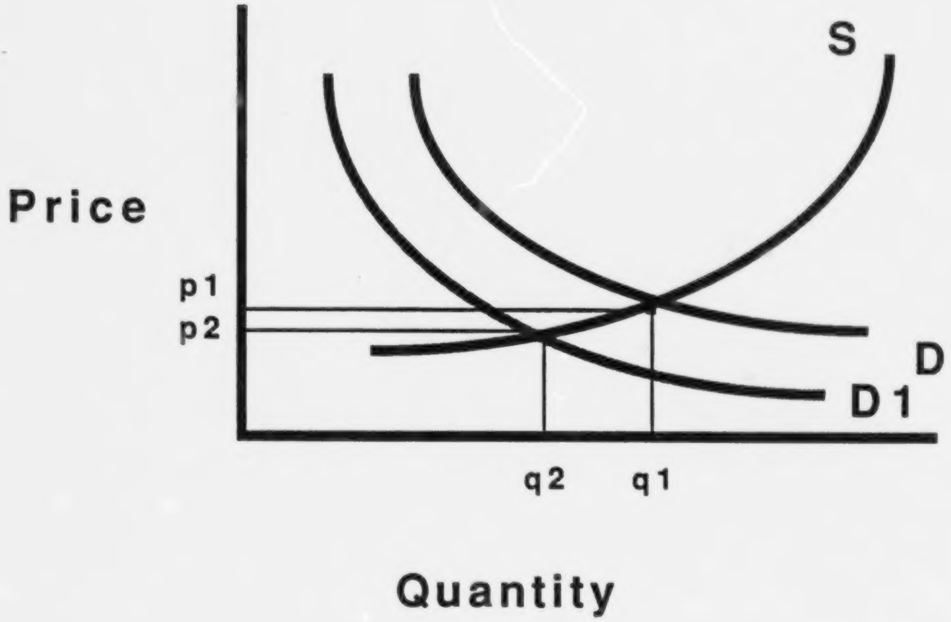


The Effect of Increased Input Costs on Supply



Price Increases
Quantity Decreases

The Effect of an Increase in the Price of Complementary Goods on Demand



UNIT 1: Marketing Principles

LESSON 3: Marketing plans

OBJECTIVES:

After completion of this lesson, the students will be able to:

1. List five factors affecting a marketing plan.
2. Explain how a cashflow is used in developing a marketing plan.
3. Describe why it is important to know breakeven price.
4. Determine breakeven price.

MATERIALS/REFERENCES NEEDED:

1. Play money for the Interest Approach
2. Deiter, R. E., Carter, R. I., Green, J. J., and S. J. Klocke. An Introduction to Agricultural Marketing Plans, Futures Markets, and Futures Trading Mechanics (Catalog Order Number 11). 1986. IAVIM Curriculum Center, Iowa State University, Ames, Iowa.

VISUAL MASTERS:

VM-1 Definition of a Marketing Plan

VM-2 Factors to be Considered in Developing a Marketing Plan

VM-3 Marketing Alternatives

VM-4 Steps Involved in Developing a Marketing Plan

VM-5 Why is a Marketing Plan Important?

INTEREST APPROACH:

Give the students each three play dollars. Each dollar is worth one privilege during the next week. The privileges are outlined by the teacher. It is recommended that the teacher consider the privileges to be allowed prior to the Interest Approach. Ask the students how they will determine to use or keep their dollar. Relate that determining when they use their dollar is much like developing a marketing plan.

QUESTIONS:

1. **What is a marketing plan?**

   Answer: A scheme which indicates how farm production will be sold. A marketing plan indicates the price at which the agricultural commodities will be sold and at what price level, and when at least some of the sales will take place.

2. **Are all marketing plans the same?**

   Answer: The answer to this question is no. This is due to the fact that each farm business has different marketing goals, so no two plans will be identical.

3. **What factors should be considered in developing a marketing plan?** VM-1

   Answer:
   Bushels for sale
   Cost of production
   Cash flow needs
   Tax management needs
   Income goals
   Discipline to sell
   Risk bearing ability
   Time and ability to analyze the market

4. **Why is cash flow necessary?**

   Answer: Some sales need to be timed to be sure cash will be available when payments are due. The cash flow can be the work sheet for the yearly marketing plan. Take cash flow needs into consideration when making marketing decisions.

5. **What type of marketing alternatives are there? VM-2**

   Answer:
   Cash sales
   Seal and storage
   Hedge
   Price later contract
   Storage
   Forward contract
   Deffered pricing alternatives
   Options

6. **What are the steps involved in developing a marketing plan?**

   Answer:
   a. Set realistic business and family goals
   b. Financial planning, i.e. cash flow
   c. Know cost of production and breakeven price

- d. Know current market factors and price trends
- e. Set target prices
- f. Evaluate production and marketing alternatives
- g. Develop a marketing strategy that will accomplish the goals and meet the target price
- h. Modify or change your marketing plan, as necessary, to keep current

7. **Why is a marketing plan important?**

Answer: A marketing plan can help a farmer determine when and how much income will be needed by the farm business during an upcoming period. It can give the farmer some direction as to the management decisions that will be made. It provides a farmer with a plan that can be followed, modified, or changed during the year in order to better meet his/her needs.

STUDENT ACTIVITIES:

1. Invite a local marketing consultant or advisory sevice agent to discuss the importance of developing a marketing plan. Prior to the broker speaking the teacher should brief them on what the students have had on marketing plans. The instructor may want to have the broker discuss the importance of knowing your breakeven prices as it relates to a marketing plan.

2. Complete computer activity 1, Cash Flow Needs of a Farmer. Using the information given in the activity, have the students complete the cash flow. Compare the cash flow that each student completed. Ask for reasons how they determined when they would market the crop and livestock.

3. For AgriData (AgEd Network) subscribers: Use one of the lessons such as Crop Selling Plans (ADN55) or Livestock Selling Plans (ADN56).

CONCLUSION:

The marketing plan for the farmer is an important tool in making management decisions. The farmer needs to take into consideration a number of factors in developing a marketing plan. Cash flow is one factor that is very important when considering a marketing plan. The time you determine to sell a portion of the crop will depend somewhat upon the cash needs of the farm business. The lesson also discusses the various factors involved in developing a marketing plan.

Unit One
Lesson Three

KNOWLEDGE ANALYZER

Name:

TRUE/FALSE (circle T or F)

T F 1. In developing a marketing plan, one should project the highest prices for the agricultural commodities to be sold.

T F 2. Agricultural commodities should be sold based on cash flow needs.

T F 3. Developing a marketing plan will reduce price risks.

T F 4. A marketing plan involves determining storage facilities needs.

T F 5. Family goals should be included in a marketing plan.

T F 6. The producer calculates the money lost by not selling at the highest price of the year.

T F 7. A marketing plan will help prevent emotions from influencing marketing decisions.

T F 8. A marketing plan is useful in tax management.

T F 9. The producer makes marketing a major business activity.

T F 10. A marketing plan allows the producer few alternatives once the plan is made.

Unit One
Lesson Three

ANSWERS TO KNOWLEDGE ANALYZER

1. FALSE
2. FALSE
3. TRUE
4. TRUE
5. TRUE
6. FALSE
7. TRUE
8. TRUE
9. FALSE
10. FALSE

Definition of a Marketing Plan

A scheme which indicates how farm production will be sold. A marketing plan indicates the price at which the agricultural commodities will be sold and at what price level, and when at least some of the sales will take place.

Unit 1
Lesson 3
VM 2

Factors to be considered in developing a Marketing Plan

-Bushels for sale

-Income goals

-Cost of production

-Discipline to sell

-Cash Flow needs

-Risk bearing ability

-Tax management needs

-Time & Ability to analyze the market

Unit 1
Lesson 3
VM 3

Marketing Alternatives

- Cash Sales
- Seal & Storage
- Hedge
- Price later contract
- Storage
- Forward contract
- Basis contract
- Options

Steps involved in developing a marketing plan

- Set realistic business and family goals
- Financial Planning-ie. Cash flow
- Know cost of production and break-even price
- Know current market factors and price trends
- Set target prices
- Evaluate production and marketing alternatives
- Develop a marketing strategy that will accomplish the goals and meet the target price
- Modify or change your marketing plan, as necessary, to keep current

Why is a Marketing Plan important?

A Marketing Plan can help a farmer determine when and how much income that will be needed by the farm business during an upcoming period. It provides a farmer with a plan that can be followed, modified or changed during the year in order to better meet his/her needs.

UNIT 2: Marketing Problem

INTRODUCTION

The following marketing problem can be used as a pre-test and a post-test for this unit. It is recommended that the instructor save the pre-test assignments and compare them to the post-test assignments, using the same information. This problem can be used to illustrate the options available in farm marketing.

SITUATION:

You have the opportunity to rent 640 acres of crop ground (580 tillable) in your area. A farm stead with house and buildings for adequate machinery is located on the farm. You have the opportunity to cash rent this property or crop share it.

Before you commit yourself, you want to prepare and evaluate a plan. Complete the following assignments:

Assignment #1: Map of Farm

Draw a scaled map of what you believe the farm to look like including building site, roads, fences, non-tillable ground, streams, etc.

Assignment #2: Type of Lease

Based on what you now know, draw up a lease for this farm. You may select crop share or cash rent, whatever you think is better.

Assignment #3: Equipment and Financing

Assume that you must purchase all the machinery you will need to farm this ground. List each item, whether you will purchase new or used and an estimated cost.

You have earned and saved $20,000 with part-time jobs and self-employment and must finance the rest of the equipment. Determine the current interest rate and compute annual principal and interest payments for a seven-year payoff. These payments will be important for developing your cash flow budget.

Assignment #4: Crop Plan

Develop a cropping plan. Determine what crops you will plant, the number of acres, and estimated yields.

Assignment #5: Expenditure Budget

Using information from the Iowa Farm Business Association or other sources that provide examples of costs of production, develop an expenditure budget for the coming year. Do not include operating interest expense at this point. Do include your expected earnings for the year and your labor and management.

Assignment #6: Operating Loan

Determine how much you will need to borrow for operating capital. Assume you still have enough money in savings to cover your family living expenses for the coming year if needed and that you only have to borrow operating capital.

How much will you have borrowed on the average for the months you need money? How many months will you need to borrow before you can pay this back? What is the current interest rate at your bank?

Estimate your expected operating interest expense and included in your expenditure budget.

Assignment #7: Cost of Production

Determine your cash flow cost of production per unit for each of the crops you have determined to plan.

Assignment #8: Marketing Options

Using the Worksheet for Assigment #7, determine expected prices for the crops you are planning to plant this spring. Project prices for the cash market, forward contract, hedging, and options.

Assignment #9: Evaluation of Plan

You are now at the decision making apex. Evaluate you plan. Prepare a written evaluation of your plan directed toward the following points:

1. What marketing options do you feel would be best for you? Should you farm or not based on the scenario you have projected?

2. What can you change in your scenario so that you think it might work better? Identify all possible changed and why you think it would improve your business plan.

Assignment #10:

Complete Assignments #2 through #9 again with the changes you would implement. This will allow you to look at a second alternative. Jut because the first one does not work or barely works doesn't mean you can't farm. It just means you haven't found the right combination yet. Do it again until you put together a plan that does work!

Assignment #9: Marketing Alternatives

Soybeans Example

Cash	Contract	Hedge	Option
May 15			
Do not price until harvest	Contract for fall delivery at $5.60 per bu.	Sell Nov. contract at $6.00/bu.; expected basis $.30 under; expected price $5.70/bu.	Buy Nov. 1 PUT with $6.00 strike price; premium $15/bu.; expected basis $.30 under; minimum expected price $5.55/bu.
October 15			
Sell soybeans	Deliver soybeans receive $5.60/bu.	Buy Nov. contract at $8.00/bu.; sell soybeans in cash market at $7.65/bu.	Let option expire; sell soybeans in cash market at $7.65/bu.
Result			
$7.65/bu.	$5.60/bu.	Cash $7.65/bu. Futures -2.00 $5.65	Cash $7.65/bu. Premium -0.15 $7.50

YOUR PROJECTIONS:

UNIT 2: Analyzing Market Alternatives

LESSON 1: Price Risks

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Describe the relationship between risks and rewards in marketing.
2. Compare "risk avoidance" and "risk acceptance" as acceptable methods of risk management and explain their role under varied situations.
3. Identify ways of managing marketing risk.
4. Explain why time should be spent on marketing and compute potential returns per hour for marketing.

MATERIALS/REFERENCES NEEDED:

1. Iowa Farm Business Association data on high profit farms and low profit farms. Iowa Farm Business Association, 226 Southeast 16th Street, P.O. Box 1809, Ames, Iowa 50010.
2. Risk Management for Farmers, Cooperative Extension Service, Iowa State University, Ames, Iowa 50010 (FM-1725)
3. Marketing for Farmers, Doane Information Service, 11701 Borman Drive, St. Louis, Missouri 63146

VISUAL MASTERS:

VM-1 Auto Advertisement
VM-2 Marketing Objectives

INTEREST APPROACH:

1. You have advertised your (VM-1) car for sale and you think it has a fair market value of $3,000. The first telephone caller offers you $3,000 right now, sight unseen, but has to know today. A second caller offers you $4,000 but wants to see it first and will come by tomorrow.
2. What are your marketing risks? (1) losing a guaranteed offer of $3,000; (2) cost of another advertisement; (3) loss of funds for a period of time.
3. What are your potential rewards: $1,000.
4. How do you decide what to do? Depends on attitude toward risk, perception of degree of risk, and greed.

QUESTIONS:

1. **When is price risk acceptance a valid strategy?**
Answer: Price risk might be acceptable for a well established farm that has high asset reserves and/or where the perception of an increase in price seems great. The important point is that the farmer understands the risks involved and is willing to accept the results should the market go the other way.

2. **When is price risk avoidance a valid strategy?**
Answer: Risk avoidance should be used by any business when a major change could cause the end of the business (e.g. a beginning farmer). Risk avoidance generally has a cost in term of insurance or reduced but guaranteed price. Risk avoidance may reduce maximum profit but may guarantee an adequate profit and continuation of the business.

3. **What are some ways price risk can be avoided?**
Answer: Forward contracting, hedging, crop insurance, options trading, minimum price contracts, etc.

4. **Does time spent on marketing pay?**
Answer: The potential for a good return for marketing time exists. Depending on the quantity of production, a small increase in marketing price per unit pays very well per hour. Marketing can be a way for a farmer to employ himself during slow seasons and earn a handsome return per hour.

STUDENT ACTIVITIES:

1. Complete SA-1 on determining risks on a farm. Relate this situation to marketing the car. Review and discuss your answers as a class.

2. Review VM-2 on marketing objectives. Evaluate and discuss each objective. Are they valid? Are some better than others? Would a good marketing plan balance several objectives?

3. Review the Iowa Farm Business Association production information for corn and soybeans (SA-2 and SA-3). What marketing suggestions/concerns would you make to the high profit third? Why? To the low profit third? Why?

4. Interview your parents and/or neighbors as to how they determine their marketing plans. Ask them what risks they take, what risks they avoid, and how they avoid or accept risk. Write a short report on findings. Discuss and summarize report in class.

5. Complete SA-4 on returns for effective marketing. Does time spent on marketing pay?

6. Complete questions on SA-5 using Risk Management for Farmers as a reference.

7. Complete the self test, SA-6, on being a speculator or a business person.

8. AgriData (AgEd Network) subscribers may want to use one or more lessons from the Grain & Livestock Hedging Course from AgriData.

CONCLUSION:

Marketing risk can be either avoided or accepted. Either way is an acceptable method of managing risk depending on the individual's circumstances. In general, the more risk, the more potential reward. Reducing risk with adequate profit can insure the continuity of the business and provide a buffer against wide changes in the market place. Decisions on risk may depend on attitudes toward risk, perception of the degree of risk, and greed.

Student Activity 1 Unit 2, Lesson 1

Determining Marketing Risk

F. R. Mer is a young agribusiness person who is just starting to farm. Eighty acres are owned, 220 acres cash rented, and 200 acres crop share on a 50/50 basis. Mer's total operator acres that yields are received from are 20 acres of waste, 50 acres of hay, 115 acres of soybeans, 43 acres of diverted government acres, and 172 acres of corn. Mer's average yields are 140 bushels per acre for corn, 35 bushels per acre for soybeans, and 1 ton per acre for hay.

One livestock enterprise consists of a 50-sow herd that farrows 2.8 times per year. Average weaning is 8 head per litter. The is a 10% death loss after weaning and averaging selling weight of market hogs is 220 pounds.

Mer's average cash flow cost to cover operating expenses, family living, income taxes, and debt payments are: corn: $2.58 per bushel; soybeans: $5.27 per bushel; and hogs: $43.12/cwt. Mer owes $160,000 for the land and has a $5,000 operating note at the bank.

Questions:

What information given above is important for you to determine market risk?

Cash flow survivial costs
Land base situation
Production factors

What additional information would you like to know to evaluate risk?

Past marketing information
Past production records
Cash reserves

What marketing risks does Mer have?

Must meet production expenses because it is assumed he is a beginning farmer with few reserves to survive low prices.

Based on what you know, what marketing suggestion would you recommend to Mer and why?

When Mer can sell at prices to cover cash flow costs, he should because Mer might not be able to survive low market prices.

What marketing suggestion would you recommend to Mer if there were no debts, $400,000 in liquid assets in the bank, and retirement was expected in the next few years? Why?

Mer would be able to accept more risk because of his cash reserve, so if the outlook is higher than cash flow costs, he might wait; but the cash reserves are there because of assuming acceptable risks.

ENTERPRISE ANALYSIS DATA

				HIGH PROFIT 1/3		SIZE 1 AVG		LOW PROFIT 1/3				GROUP AVG	
01	GENERAL CROP INFORMATION												
02	TOTAL VALUE PRODUCTION			44224		39844		32630				102301	
03	% OF TOTAL GROSS PROFIT			38.0		49.7		63.7				62.9	
04	OWNED ACRES: TOTAL, ROT			63	48	82	63	115	85			216	182
05	RENTED ACRES: TOTAL, ROT			210	174	186	151	116	99			341	299
06													
07	CORN ENTERPRISES (10, 11)												
08	NUMBER OF FARMS			40		110		36				443	
09	OPERATOR BUSHEL EQUIVALENT			9629		8723		7092				21712	
10	OPERATOR SHARE OF ACRES			74		68		56				162	
11	YIELD/ACRE			130		128		127				134	
12													
13	TOTAL CROP VALUE			17788		16651		12305				40328	
14	CROP VALUE/ACRE			240.38		244.87		219.73				248.94	
15	TOTAL ALLOCATED COSTS			22514		22902		21971				50361	
16	NET CROP RETURN			-4725		-6251		-9667				-10033	
17	NET CROP RETURN/ACRE			-63.85		-91.93		-172.63				-61.93	
18													
19	BUSHELS SOLD			6749		7660		7520				21129	
20	AVG SELLING PRICE/BU			1.70		1.65		1.59				1.71	
21		$/BU	$/A	$/BU	$/A	$/BU	$/A	$/BU	$/A	$/BU	$/A	$/BU	$/A
22	SEED			.16	20.93	.16	20.19	.16	19.73			.15	19.65
23	INSECTICIDE			.03	4.20	.03	3.78	.03	4.30			.03	3.96
24	HERBICIDE			.14	17.91	.12	15.84	.12	15.66			.12	16.68
25	FERTILIZER & LIME			.30	38.41	.30	38.63	.32	41.05			.29	38.35
26	DRYING & STORAGE			.04	4.70	.04	5.68	.06	7.38			.04	5.62
27	OTHER CROP EXPENSE			.05	6.86	.04	5.68	.05	6.02			.03	4.33
28													
29	CASH MACH & EQUIP COST			.28	36.32	.36	45.79	.43	53.98			.26	35.29
30	MISCELLANEOUS			.03	4.19	.04	5.16	.05	6.39			.03	4.40
31	UTILITIES			.04	5.78	.06	7.16	.08	10.07			.04	5.54
32	RENT			.24	31.35	.20	26.01	.12	14.84			.27	36.30
33	PROP TAX & BLDG REPAIR			.07	8.88	.09	12.00	.15	19.54			.09	11.51
34	INTEREST			.21	26.84	.25	31.71	.32	40.89			.25	33.96
35	INSURANCE			.05	6.12	.06	7.19	.07	8.84			.05	6.06
36	LABOR HIRED			.03	3.50	.05	5.82	.07	9.11			.05	6.54
37	IRRIGATION						.13		.50				.01
38	TOTAL CASH EXPENSE			1.66	216.00	1.80	230.75	2.04	258.30			1.70	228.21
39													
40	FAMILY LIVING EXPENSE			.42	54.42	.48	61.56	.52	66.30			.25	33.77
41	PRINCIPAL PAYMENTS			.08	10.47	.05	7.01	.04	5.16			.05	6.73
42	TOTAL CASH FLOW COST			2.16	280.89	2.33	299.34	2.60	329.75			2.00	268.71
43													
44	MACH & EQUIP DEPRECIATION			.10	13.20	.11	14.22	.15	19.20			.10	13.35
45	BLDG & IMPRV DEPRECIATION			.07	8.82	.06	7.91	.09	11.18			.07	9.31
46	UNPAID LABOR EXPENSES			.31	40.76	.43	54.65	.53	66.95			.21	28.41
47	EQUITY CHARGE			.20	25.45	.23	29.26	.29	36.71			.24	31.59
48	TOTAL ECONOMIC COST			2.34	304.24	2.63	336.79	3.10	392.34			2.32	310.87
49													
50	CORN NET AS % MGMT RETURN			-12.9		-57.3		77.2				-35.1	
51													
52	CORN EXPNS AS % TOT CASH EXPNS			31.0		36.5		38.9				40.0	
53													
54	CORN LABOR AS % TOT LABOR			19.4		26.4		29.4				29.4	
55													
56													
57													
58													

**** I.F.B.A Data on High Profit Farms and Low Profit Farms. Use in: Unit 2 Lesson 1

Unit 4 Lesson 1

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SA-2&3

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ENTERPRISE ANALYSIS DATA
                                                     HIGH PROFIT 1/3   SIZE 1 AVG    LOW PROFIT 1/3                GROUP AVG
========================================================================================================================
 01  GENERAL CROP INFORMATION
 02     TOTAL VALUE PRODUCTION                              44224          39844          32630                       102301
 03     % OF TOTAL GROSS PROFIT                              38.0           49.7           63.7                         62.9
 04     OWNED ACRES: TOTAL, ROT                          63      48     82      63    115      85                  216      182
 05     RENTED ACRES: TOTAL, ROT                        210     174    186     151    116      99                  341      299
 06  ===================================================================================================================
 07  SOYBEAN ENTERPRISES  ( 20, 21 )
 08     NUMBER OF FARMS                                        30             95             31                          419
 09     OPERATOR BUSHEL EQUIVALENT                           2778           2668           2304                         6239
 10     OPERATOR SHARE OF ACRES                                60             61             55                          141
 11     YIELD/ACRE                                             46             44             42                           44
 12
 13     TOTAL CROP VALUE                                    14719          14016          11956                        33104
 14     CROP VALUE/ACRE                                    245.32         229.77         217.38                       234.78
 15     TOTAL ALLOCATED COSTS                               13663          15493          15799                        32623
 16     NET CROP RETURN                                      1055          -1478          -3842                          481
 17     NET CROP RETURN/ACRE                                17.58         -24.23         -69.85                         3.41
 18
 19     BUSHELS SOLD                                         2111           2405           2405                         5506
 20     AVG SELLING PRICE/BU                                 4.73           4.80           4.87                         4.79
 21                                    $/BU-----$/A   $/BU-----$/A   $/BU-----$/A   $/BU-----$/A   $/BU-----$/A   $/BU-----$/A
 22     SEED                                          .28    13.03   .27    11.62   .26    11.02                  .28    12.18
 23     INSECTICIDE                                                          .11   .01      .25                  .01      .36
 24     HERBICIDE                                     .33    15.42   .36    15.95   .41    17.02                  .38    16.75
 25     FERTILIZER & LIME                             .04     1.95   .06     2.52   .07     2.89                  .07     2.97
 26     DRYING & STORAGE                                       .15            .07            .09                           .07
 27     OTHER CROP EXPENSE                            .11     5.07   .06     2.62   .06     2.58                  .04     1.82
 28
 29     CASH MACH & EQUIP COST                        .66    30.57   .89    38.84  1.11    46.55                  .71    31.58
 30     MISCELLANEOUS                                 .09     4.23   .11     4.82   .14     5.71                  .09     3.99
 31     UTILITIES                                     .08     3.78   .12     5.30   .16     6.84                  .08     3.74
 32     RENT                                          .76    35.23   .57    25.08   .30    12.49                  .69    30.50
 33     PROP TAX & BLDG REPAIR                        .19     8.62   .28    12.16   .47    19.67                  .24    10.46
 34     INTEREST                                      .47    21.55   .61    26.72   .82    34.20                  .65    28.69
 35     INSURANCE                                     .15     6.98   .17     7.54   .20     8.51                  .17     7.35
 36     LABOR HIRED                                   .05     2.52   .09     3.82   .11     4.44                  .13     5.77
 37     IRRIGATION                                                   .01      .43   .03     1.42                           .04
 38  TOTAL CASH EXPENSE                              3.22   149.10  3.60   157.61  4.15   173.67                 3.53   156.27
 39
 40     FAMILY LIVING EXPENSE                         .95    43.80  1.26    55.25  1.36    57.16                  .76    33.82
 41     PRINCIPAL PAYMENTS                            .18     8.47   .12     5.36   .08     3.22                  .14     6.26
 42  TOTAL CASH FLOW COST                            4.35   201.37  4.99   218.21  5.59   234.04                 4.44   196.35
 43
 44     MACH & EQUIP DEPRECIATION                     .22    10.33   .28    12.33   .42    17.78                  .27    12.11
 45     BLDG & IMPRV DEPRECIATION                     .16     7.22   .14     6.30   .21     8.67                  .17     7.58
 46     UNPAID LABOR EXPENSES                         .77    35.78  1.18    51.59  1.41    59.22                  .63    27.99
 47     EQUITY CHARGE                                 .55    25.30   .60    26.18   .67    27.91                  .62    27.43
 48  TOTAL ECONOMIC COST                             4.92   227.72  5.81   253.98  6.86   287.25                 5.23   231.37
 49
 50  SYBN NET AS % MGMT RETURN                               2.9          -13.5           30.7                          1.7
 51
 52  SYBN EXPNS AS % TOT CASH EXPNS                         17.4           22.4           25.7                         23.8
 53
 54  SYBN LABOR AS % TOT LABOR                              13.6           21.7           24.2                         24.7
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2.9

ENTERPRISE ANALYSIS DATA

			HIGH PROFIT 1/3		SIZE 2 AVG		LOW PROFIT 1/3				GROUP AVG	
GENERAL CROP INFORMATION												
TOTAL VALUE PRODUCTION				71690		71006		66566				102301
% OF TOTAL GROSS PROFIT				40.7		56.1		75.5				62.9
OWNED ACRES: TOTAL, ROT			152	125	165	134	207	169			216	182
RENTED ACRES: TOTAL, ROT			301	254	272	237	224	194			341	299
CORN ENTERPRISES (10, 11)												
NUMBER OF FARMS				39		115		36				443
OPERATOR BUSHEL EQUIVALENT				14972		14645		14034				21712
OPERATOR SHARE OF ACRES				122		116		113				162
YIELD/ACRE				123		126		124				134
TOTAL CROP VALUE				25050		26168		26151				40328
CROP VALUE/ACRE				205.33		225.59		231.42				248.94
TOTAL ALLOCATED COSTS				34923		35916		37583				50361
NET CROP RETURN				-9872		-9748		-11432				-10033
NET CROP RETURN/ACRE				-80.92		-84.03		-101.17				-61.93
BUSHELS SOLD				9358		13377		15624				21129
AVG SELLING PRICE/BU				1.73		1.69		1.64				1.71
	$/BU	-----$/A	$/BU	-----$/A	$/BU	-----$/A	$/BU	-----$/A	$/BU	-----$/A	$/BU	-----$/A
SEED			.14	17.48	.15	18.71	.15	18.76			.15	19.65
INSECTICIDE			.06	6.92	.03	3.91	.03	3.18			.03	3.96
HERBICIDE			.14	16.74	.13	16.08	.12	15.30			.12	16.68
FERTILIZER & LIME			.29	35.25	.29	36.91	.30	37.86			.29	38.35
DRYING & STORAGE			.03	4.18	.04	4.86	.04	5.54			.04	5.62
OTHER CROP EXPENSE			.04	4.70	.03	4.33	.04	4.42			.03	4.33
CASH MACH & EQUIP COST			.26	31.35	.29	36.26	.33	41.40			.26	35.29
MISCELLANEOUS			.03	3.62	.03	4.12	.04	4.80			.03	4.40
UTILITIES			.06	6.80	.05	6.27	.05	6.37			.04	5.54
RENT			.21	25.70	.22	27.52	.20	24.59			.27	36.30
PROP TAX & BLDG REPAIR			.11	13.84	.10	13.19	.12	14.61			.09	11.51
INTEREST			.21	25.36	.23	29.34	.22	27.51			.25	33.96
INSURANCE			.05	5.81	.05	6.79	.06	7.81			.05	6.06
LABOR HIRED			.05	5.82	.04	5.32	.06	7.02			.05	6.54
IRRIGATION												.01
TOTAL CASH EXPENSE			1.66	203.58	1.69	213.59	1.76	219.17			1.70	228.21
FAMILY LIVING EXPENSE			.30	37.02	.32	40.55	.33	40.87			.25	33.77
PRINCIPAL PAYMENTS			.02	1.99	.04	4.74	.07	8.47			.05	6.73
TOTAL CASH FLOW COST			1.98	242.59	2.05	258.89	2.16	268.51			2.00	268.71
MACH & EQUIP DEPRECIATION			.10	11.97	.11	13.63	.12	15.00			.10	13.35
BLDG & IMPRV DEPRECIATION			.07	9.16	.07	8.94	.09	11.11			.07	9.31
UNPAID LABOR EXPENSES			.23	28.79	.30	37.59	.34	42.26			.21	28.41
EQUITY CHARGE			.27	32.75	.28	35.86	.36	45.05			.24	31.59
TOTAL ECONOMIC COST			2.33	286.25	2.45	309.62	2.68	332.59			2.32	310.87
CORN NET AS % MGMT RETURN				-16.3		-40.6		155.5				-35.1
CORN EXPNS AS % TOT CASH EXPNS				32.1		36.7		40.5				40.0
CORN LABOR AS % TOT LABOR				23.1		28.9		33.6				29.4

2.10

ENTERPRISE ANALYSIS DATA

			HIGH PROFIT 1/3		SIZE 2 AVG		LOW PROFIT 1/3				GROUP AVG	
GENERAL CROP INFORMATION												
TOTAL VALUE PRODUCTION			71690		71006		66566				102301	
% OF TOTAL GROSS PROFIT			40.7		56.1		75.5				62.9	
OWNED ACRES: TOTAL, ROT			152	125	165	134	207	169			216	182
RENTED ACRES: TOTAL, ROT			301	254	272	237	224	194			341	299
SOYBEAN ENTERPRISES (20, 21)												
NUMBER OF FARMS			35		108		35				419	
OPERATOR BUSHEL EQUIVALENT			4591		4840		4806				6239	
OPERATOR SHARE OF ACRES			102		109		113				141	
YIELD/ACRE			45		44		43				44	
TOTAL CROP VALUE			24100		25503		25368				33104	
CROP VALUE/ACRE			236.27		233.97		224.50				234.78	
TOTAL ALLOCATED COSTS			21263		24842		28250				32623	
NET CROP RETURN			2838		661		-2882				481	
NET CROP RETURN/ACRE			27.82		6.06		-25.50				3.41	
BUSHELS SOLD			3534		4192		4391				5506	
AVG SELLING PRICE/BU			4.75		4.75		4.66				4.79	
	$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A
SEED			.29	13.04	.26	11.56	.24	10.40			.28	12.18
INSECTICIDE				.01		.11	.02	.69			.01	.36
HERBICIDE			.38	17.07	.38	16.99	.35	15.04			.38	16.75
FERTILIZER & LIME			.10	4.39	.07	3.08	.08	3.45			.07	2.97
DRYING & STORAGE				.15		.21						.07
OTHER CROP EXPENSE			.03	1.35	.03	1.45	.02	.89			.04	1.82
CASH MACH & EQUIP COST			.61	27.55	.71	31.61	.88	37.64			.71	31.58
MISCELLANEOUS			.07	3.25	.08	3.51	.10	4.11			.09	3.99
UTILITIES			.10	4.64	.09	3.95	.10	4.10			.08	3.74
RENT			.44	19.79	.51	22.50	.48	20.41			.69	30.50
PROP TAX & BLDG REPAIR			.26	11.67	.25	11.29	.30	12.87			.24	10.46
INTEREST			.48	21.47	.57	25.26	.59	25.04			.65	28.69
INSURANCE			.12	5.30	.16	7.17	.19	8.10			.17	7.35
LABOR HIRED			.13	5.91	.10	4.60	.13	5.45			.13	5.77
IRRIGATION												.04
TOTAL CASH EXPENSE			3.01	135.61	3.23	143.29	3.48	148.17			3.53	156.27
FAMILY LIVING EXPENSE			.81	36.65	.87	38.75	.97	41.11			.76	33.82
PRINCIPAL PAYMENTS			.07	2.97	.09	3.91	.10	4.13			.14	6.26
TOTAL CASH FLOW COST			3.89	175.23	4.19	185.95	4.55	193.41			4.44	196.35
MACH & EQUIP DEPRECIATION			.26	11.75	.27	12.01	.28	12.06			.27	12.11
BLDG & IMPRV DEPRECIATION			.18	8.23	.17	7.53	.21	8.82			.17	7.58
UNPAID LABOR EXPENSES			.63	28.16	.80	35.60	.96	40.92			.63	27.99
EQUITY CHARGE			.55	24.71	.66	29.48	.94	40.03			.62	27.43
TOTAL ECONOMIC COST			4.63	208.46	5.13	227.91	5.88	250.00			5.23	231.37
SYBN NET AS % MGMT RETURN			4.7		2.8		39.2				1.7	
SYBN EXPNS AS % TOT CASH EXPNS			17.9		23.2		27.4				23.8	
SYBN LABOR AS % TOT LABOR			19.0		25.4		31.6				24.7	

2.11

ENTERPRISE ANALYSIS DATA

				HIGH PROFIT 1/3		SIZE 3 AVG		LOW PROFIT 1/3				GROUP AVG	
01	GENERAL CROP INFORMATION												
02	TOTAL VALUE PRODUCTION			104880		101416		96661				102301	
03	% OF TOTAL GROSS PROFIT			53.1		66.5		82.4				62.9	
04	OWNED ACRES: TOTAL, ROT			207	177	230	193	293	246			216	182
05	RENTED ACRES: TOTAL, ROT			340	304	334	294	264	227			341	299
06													
07	CORN ENTERPRISES (10, 11)												
08	NUMBER OF FARMS			34		102		36				443	
09	OPERATOR BUSHEL EQUIVALENT			22959		21356		20411				21712	
10	OPERATOR SHARE OF ACRES			179		165		162				162	
11	YIELD/ACRE			128		129		126				134	
12													
13	TOTAL CROP VALUE			42104		40276		36873				40328	
14	CROP VALUE/ACRE			235.22		244.10		227.61				248.94	
15	TOTAL ALLOCATED COSTS			50205		51193		53163				50361	
16	NET CROP RETURN			-8101		-10917		-16291				-10033	
17	NET CROP RETURN/ACRE			-45.26		-66.16		-100.56				-61.93	
18													
19	BUSHELS SOLD			20392		21142		20375				21129	
20	AVG SELLING PRICE/BU			1.71		1.69		1.66				1.71	
21		$/BU	$/A	$/BU	$/A	$/BU	$/A	$/BU	$/A	$/BU	$/A	$/BU	$/A
22	SEED			.15	19.82	.15	19.81	.16	19.91			.15	19.65
23	INSECTICIDE			.03	4.25	.02	3.20	.03	3.62			.03	3.96
24	HERBICIDE			.14	17.63	.13	17.22	.14	17.07			.12	16.68
25	FERTILIZER & LIME			.30	38.36	.30	39.19	.31	39.14			.29	38.35
26	DRYING & STORAGE			.05	6.75	.04	5.58	.03	4.06			.04	5.62
27	OTHER CROP EXPENSE			.04	4.49	.02	3.04	.01	1.28			.03	4.33
28													
29	CASH MACH & EQUIP COST			.25	32.09	.29	37.56	.31	39.30			.26	35.29
30	MISCELLANEOUS			.03	3.67	.04	4.92	.06	6.96			.03	4.40
31	UTILITIES			.04	4.75	.04	5.13	.04	5.46			.04	5.54
32	RENT			.24	31.06	.27	34.70	.26	33.32			.27	36.30
33	PROP TAX & BLDG REPAIR			.08	10.85	.09	11.21	.09	11.90			.09	11.51
34	INTEREST			.13	17.17	.24	31.37	.31	39.48			.25	33.96
35	INSURANCE			.04	4.97	.05	6.13	.05	5.85			.05	6.06
36	LABOR HIRED			.04	4.65	.04	5.70	.05	6.18			.05	6.54
37	IRRIGATION												.01
38	TOTAL CASH EXPENSE			1.56	200.51	1.74	224.75	1.85	233.52			1.70	228.21
39													
40	FAMILY LIVING EXPENSE			.22	27.64	.26	33.83	.30	37.25			.25	33.77
41	PRINCIPAL PAYMENTS			.05	6.56	.07	9.18	.06	7.79			.05	6.73
42	TOTAL CASH FLOW COST			1.83	234.72	2.07	267.76	2.21	278.56			2.00	268.71
43													
44	MACH & EQUIP DEPRECIATION			.09	11.01	.11	13.95	.13	16.87			.10	13.35
45	BLDG & IMPRV DEPRECIATION			.06	8.23	.07	9.65	.09	11.67			.07	9.31
46	UNPAID LABOR EXPENSES			.19	23.80	.22	28.62	.24	30.45			.21	28.41
47	EQUITY CHARGE			.29	36.92	.26	33.30	.28	35.66			.24	31.59
48	TOTAL ECONOMIC COST			2.19	280.47	2.40	310.26	2.60	328.17			2.32	310.87
49													
50	CORN NET AS % MGMT RETURN			-13.1		-45.0		166.0				-35.1	
51													
52	CORN EXPNS AS % TOT CASH EXPNS			40.1		42.8		44.9				40.0	
53													
54	CORN LABOR AS % TOT LABOR			26.5		31.6		33.9				29.4	
55													
56													
57													
58													

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ENTERPRISE ANALYSIS DATA

				HIGH PROFIT 1/3		SIZE 3 AVG		LOW PROFIT 1/3				GROUP AVG	
01	GENERAL CROP INFORMATION												
02	TOTAL VALUE PRODUCTION			104880		101416		96661				102301	
03	% OF TOTAL GROSS PROFIT			53.1		66.5		82.4				62.9	
04	OWNED ACRES: TOTAL, ROT			207	177	230	193	293	246			216	182
05	RENTED ACRES: TOTAL, ROT			340	304	334	294	264	227			341	299
06													
07	SOYBEAN ENTERPRISES (20, 21)												
08	NUMBER OF FARMS			33		100		35				419	
09	OPERATOR BUSHEL EQUIVALENT			5966		6233		6006				6239	
10	OPERATOR SHARE OF ACRES			138		146		143				141	
11	YIELD/ACRE			43		43		42				44	
12													
13	TOTAL CROP VALUE			31655		33057		31315				33104	
14	CROP VALUE/ACRE			229.38		226.42		218.99				234.78	
15	TOTAL ALLOCATED COSTS			28301		33618		37213				32623	
16	NET CROP RETURN			3354		-562		-5898				481	
17	NET CROP RETURN/ACRE			24.30		-3.85		-41.24				3.41	
18													
19	BUSHELS SOLD			5458		5609		5830				5506	
20	AVG SELLING PRICE/BU			4.77		4.80		4.80				4.79	
21		$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A
22	SEED			.28	11.97	.29	12.54	.31	12.84			.28	12.18
23	INSECTICIDE				.09	.01	.34	.02	.69			.01	.36
24	HERBICIDE			.42	18.14	.40	17.13	.44	18.27			.38	16.75
25	FERTILIZER & LIME			.14	6.19	.08	3.35	.04	1.66			.07	2.97
26	DRYING & STORAGE				.19		.06		.01				.07
27	OTHER CROP EXPENSE			.04	1.66	.03	1.24	.03	1.29			.04	1.82
28													
29	CASH MACH & EQUIP COST			.70	30.48	.79	33.81	.82	34.44			.71	31.58
30	MISCELLANEOUS			.09	3.85	.11	4.49	.14	5.76			.09	3.99
31	UTILITIES			.08	3.54	.08	3.48	.07	3.02			.08	3.74
32	RENT			.64	27.46	.67	28.68	.63	26.45			.69	30.50
33	PROP TAX & BLDG REPAIR			.20	8.82	.22	9.57	.26	10.95			.24	10.46
34	INTEREST			.33	14.40	.61	25.99	.89	37.30			.65	28.69
35	INSURANCE			.13	5.64	.17	7.41	.18	7.74			.17	7.35
36	LABOR HIRED			.09	3.86	.12	5.18	.13	5.64			.13	5.77
37	IRRIGATION												.04
38	TOTAL CASH EXPENSE			3.15	136.27	3.59	153.27	3.95	166.06			3.53	156.27
39													
40	FAMILY LIVING EXPENSE			.60	26.05	.79	33.82	.97	40.82			.76	33.82
41	PRINCIPAL PAYMENTS			.16	6.95	.22	9.60	.28	11.59			.14	6.26
42	TOTAL CASH FLOW COST			3.92	169.27	4.61	196.68	5.20	218.46			4.44	196.35
43													
44	MACH & EQUIP DEPRECIATION			.23	10.14	.28	12.01	.35	14.63			.27	12.11
45	BLDG & IMPRV DEPRECIATION			.16	7.09	.18	7.57	.24	9.92			.17	7.58
46	UNPAID LABOR EXPENSES			.53	22.96	.65	27.91	.75	31.48			.63	27.99
47	EQUITY CHARGE			.66	28.62	.69	29.50	.91	38.14			.62	27.43
48	TOTAL ECONOMIC COST			4.74	205.08	5.39	230.26	6.20	260.23			5.23	231.37
49													
50	SYBN NET AS % MGMT RETURN			5.4		-2.3		60.1				1.7	
51													
52	SYBN EXPNS AS % TOT CASH EXPNS			21.0		25.8		28.2				23.8	
53													
54	SYBN LABOR AS % TOT LABOR			19.2		27.0		30.3				24.7	
55													
56													
57													
58													

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2.13

ENTERPRISE ANALYSIS DATA

			HIGH PROFIT 1/3		SIZE 4 AVG		LOW PROFIT 1/3				GROUP AVG	
GENERAL CROP INFORMATION												
TOTAL VALUE PRODUCTION			158087		145928		136183				102301	
% OF TOTAL GROSS PROFIT			53.8		65.4		85.7				62.9	
OWNED ACRES: TOTAL, ROT			306	252	292	250	336	297			216	182
RENTED ACRES: TOTAL, ROT			524	444	486	429	384	348			341	299
CORN ENTERPRISES (10, 11)												
NUMBER OF FARMS			24		80		28				443	
OPERATOR BUSHEL EQUIVALENT			36318		32936		27955				21712	
OPERATOR SHARE OF ACRES			257		233		207				162	
YIELD/ACRE			141		141		135				134	
TOTAL CROP VALUE			68888		62877		53506				40328	
CROP VALUE/ACRE			268.05		269.86		258.48				248.94	
TOTAL ALLOCATED COSTS			74202		72061		67860				50361	
NET CROP RETURN			-5315		-9183		-14354				-10033	
NET CROP RETURN/ACRE			-20.68		-39.41		-69.34				-61.93	
BUSHELS SOLD			34023		35033		36444				21129	
AVG SELLING PRICE/BU			1.65		1.70		1.69				1.71	
	$/BU	-----$/A	$/BU	-----$/A	$/BU	-----$/A	$/BU	-----$/A	$/BU	-----$/A	$/BU	-----$/A
SEED			.14	20.39	.14	20.11	.14	19.06			.15	19.65
INSECTICIDE			.02	3.45	.02	3.33	.02	2.99			.03	3.96
HERBICIDE			.13	17.86	.13	17.98	.15	19.91			.12	16.68
FERTILIZER & LIME			.26	36.67	.28	39.07	.29	39.31			.29	38.35
DRYING & STORAGE			.04	5.33	.04	5.52	.04	5.88			.04	5.62
OTHER CROP EXPENSE			.02	2.47	.04	5.96	.06	8.21			.03	4.33
CASH MACH & EQUIP COST			.21	29.41	.22	30.92	.19	25.87			.26	35.29
MISCELLANEOUS			.03	3.54	.03	4.08	.04	5.12			.03	4.40
UTILITIES			.03	4.86	.04	5.47	.04	5.19			.04	5.54
RENT			.28	39.31	.26	36.95	.24	32.01			.27	36.30
PROP TAX & BLDG REPAIR			.09	12.32	.09	13.02	.12	16.11			.09	11.51
INTEREST			.20	28.92	.26	36.56	.36	48.22			.25	33.96
INSURANCE			.04	5.69	.04	6.15	.05	6.32			.05	6.06
LABOR HIRED			.03	4.79	.06	7.79	.07	9.98			.05	6.54
IRRIGATION												.01
TOTAL CASH EXPENSE			1.52	215.02	1.65	232.92	1.81	244.18			1.70	228.21
FAMILY LIVING EXPENSE			.22	31.04	.21	29.69	.22	30.23			.25	33.77
PRINCIPAL PAYMENTS			.03	4.19	.05	6.73	.06	7.58			.05	6.73
TOTAL CASH FLOW COST			1.77	250.25	1.91	269.35	2.09	281.99			2.00	268.71
MACH & EQUIP DEPRECIATION			.10	13.92	.10	14.46	.11	14.83			.10	13.35
BLDG & IMPRV DEPRECIATION			.08	11.10	.07	9.97	.07	9.49			.07	9.31
UNPAID LABOR EXPENSES			.14	19.47	.16	22.58	.18	24.33			.21	28.41
EQUITY CHARGE			.21	29.21	.21	29.35	.26	35.00			.24	31.59
TOTAL ECONOMIC COST			2.04	288.72	2.19	309.27	2.43	327.83			2.32	310.87
CORN NET AS % MGMT RETURN			-5.3		-20.9		170.8				-35.1	
CORN EXPNS AS % TOT CASH EXPNS			40.7		42.4		42.0				40.0	
CORN LABOR AS % TOT LABOR			27.7		32.5		34.5				29.4	

ENTERPRISE ANALYSIS DATA

				HIGH PROFIT 1/3		SIZE 4 AVG		LOW PROFIT 1/3				GROUP AVG	
01	GENERAL CROP INFORMATION												
02	TOTAL VALUE PRODUCTION			158087		145928		136183				102301	
03	% OF TOTAL GROSS PROFIT			53.8		65.4		85.7				62.9	
04	OWNED ACRES: TOTAL, ROT			306	252	292	250	336	297			216	182
05	RENTED ACRES: TOTAL, ROT			524	444	486	429	384	348			341	299
06													
07	SOYBEAN ENTERPRISES (20, 21)												
08	NUMBER OF FARMS			24		80		28				419	
09	OPERATOR BUSHEL EQUIVALENT			9501		9091		8985				6239	
10	OPERATOR SHARE OF ACRES			200		203		205				141	
11	YIELD/ACRE			48		45		44				44	
12													
13	TOTAL CROP VALUE			51921		48983		48162				33104	
14	CROP VALUE/ACRE			259.61		241.30		234.94				234.78	
15	TOTAL ALLOCATED COSTS			42609		45695		51544				32623	
16	NET CROP RETURN			9312		3289		-3382				481	
17	NET CROP RETURN/ACRE			46.56		16.20		-16.50				3.41	
18													
19	BUSHELS SOLD			7486		7951		8501				5506	
20	AVG SELLING PRICE/BU			4.80		4.78		4.74				4.79	
21		$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A
22	SEED			.23	10.72	.26	11.79	.28	12.21			.28	12.18
23	INSECTICIDE						.03		.08			.01	.36
24	HERBICIDE			.36	16.99	.39	17.55	.47	20.80			.38	16.75
25	FERTILIZER & LIME			.02	1.07	.04	2.01	.04	1.80			.07	2.97
26	DRYING & STORAGE						.03		.09				.07
27	OTHER CROP EXPENSE			.05	2.17	.05	2.22	.05	2.35			.04	1.82
28													
29	CASH MACH & EQUIP COST			.55	26.02	.60	27.02	.62	27.37			.71	31.58
30	MISCELLANEOUS			.06	2.82	.08	3.45	.11	4.62			.09	3.99
31	UTILITIES			.07	3.54	.07	3.33	.07	3.01			.08	3.74
32	RENT			.73	34.91	.69	30.73	.62	27.21			.69	30.50
33	PROP TAX & BLDG REPAIR			.22	10.32	.25	11.35	.33	14.52			.24	10.46
34	INTEREST			.51	24.11	.72	32.30	.99	43.34			.65	28.69
35	INSURANCE			.16	7.43	.17	7.82	.20	8.60			.17	7.35
36	LABOR HIRED			.09	4.43	.15	6.69	.21	9.20			.13	5.77
37	IRRIGATION												.04
38	TOTAL CASH EXPENSE			3.04	144.50	3.49	156.33	4.00	175.21			3.53	156.27
39													
40	FAMILY LIVING EXPENSE			.66	31.14	.64	28.53	.64	28.11			.76	33.82
41	PRINCIPAL PAYMENTS			.07	3.44	.13	5.92	.17	7.28			.14	6.26
42	TOTAL CASH FLOW COST			3.77	179.08	4.26	190.77	4.81	210.60			4.44	196.35
43													
44	MACH & EQUIP DEPRECIATION			.26	12.40	.29	12.97	.33	14.49			.27	12.11
45	BLDG & IMPRV DEPRECIATION			.19	9.05	.18	7.85	.19	8.37			.17	7.58
46	UNPAID LABOR EXPENSES			.40	19.16	.47	21.03	.49	21.68			.63	27.99
47	EQUITY CHARGE			.59	27.95	.60	26.92	.72	31.68			.62	27.43
48	TOTAL ECONOMIC COST			4.48	213.05	5.03	225.10	5.74	251.43			5.23	231.37
49													
50	SYBN NET AS % MGMT RETURN			9.3		7.5		40.3				1.7	
51													
52	SYBN EXPNS AS % TOT CASH EXPNS			21.3		24.8		29.9				23.8	
53													
54	SYBN LABOR AS % TOT LABOR			21.0		25.8		30.7				24.7	
55													
56													
57													
58													

2.15

ENTERPRISE ANALYSIS DATA

				HIGH PROFIT 1/3		SIZE 5 AVG		LOW PROFIT 1/3				GROUP AVG	
01	GENERAL CROP INFORMATION												
02	TOTAL VALUE PRODUCTION			332190		259736		224007				102301	
03	% OF TOTAL GROSS PROFIT			66.7		69.8		73.2				62.9	
04	OWNED ACRES: TOTAL, ROT			677	598	511	448	522	456			216	182
05	RENTED ACRES: TOTAL, ROT			673	591	639	582	560	516			341	299
06													
07	CORN ENTERPRISES (10, 11)												
08	NUMBER OF FARMS			11		36		12				443	
09	OPERATOR BUSHEL EQUIVALENT			79574		60042		53343				21712	
10	OPERATOR SHARE OF ACRES			559		435		411				162	
11	YIELD/ACRE			142		138		130				134	
12													
13	TOTAL CROP VALUE			145214		107953		89164				40328	
14	CROP VALUE/ACRE			259.77		248.17		216.94				248.94	
15	TOTAL ALLOCATED COSTS			151865		129829		130267				50361	
16	NET CROP RETURN			-6651		-21876		-41103				-10033	
17	NET CROP RETURN/ACRE			-11.90		-50.29		-100.01				-61.93	
18													
19	BUSHELS SOLD			59276		56116		64370				21129	
20	AVG SELLING PRICE/BU			1.78		1.77		1.72				1.71	
21		$/BU-----$/A		$/BU-----$/A		$/BU-----$/A		$/BU-----$/A		$/BU-----$/A		$/BU-----$/A	
22	SEED			.14	20.09	.14	19.28	.15	19.06			.15	19.65
23	INSECTICIDE			.03	4.87	.04	5.57	.06	7.66			.03	3.96
24	HERBICIDE			.12	17.62	.11	15.28	.09	11.11			.12	16.68
25	FERTILIZER & LIME			.23	32.54	.27	37.22	.26	33.98			.29	38.35
26	DRYING & STORAGE			.04	5.73	.05	6.35	.05	6.80			.04	5.62
27	OTHER CROP EXPENSE			.02	3.34	.02	3.11	.02	2.51			.03	4.33
28													
29	CASH MACH & EQUIP COST			.20	28.64	.23	31.78	.27	34.54			.26	35.29
30	MISCELLANEOUS			.02	3.43	.03	4.03	.04	4.75			.03	4.40
31	UTILITIES			.02	3.23	.03	4.61	.04	5.40			.04	5.54
32	RENT			.33	47.39	.36	49.23	.37	48.06			.27	36.30
33	PROP TAX & BLDG REPAIR			.04	5.40	.06	8.22	.08	9.80			.09	11.51
34	INTEREST			.19	27.25	.28	38.28	.41	53.19			.25	33.96
35	INSURANCE			.02	3.37	.03	4.65	.04	4.73			.05	6.06
36	LABOR HIRED			.07	9.94	.05	7.27	.02	3.17			.05	6.54
37	IRRIGATION												.01
38	TOTAL CASH EXPENSE			1.50	212.84	1.70	234.88	1.89	244.76			1.70	228.21
39													
40	FAMILY LIVING EXPENSE			.11	16.08	.14	19.11	.13	16.62			.25	33.77
41	PRINCIPAL PAYMENTS			.04	6.29	.04	5.57	.06	7.95			.05	6.73
42	TOTAL CASH FLOW COST			1.65	235.21	1.88	259.56	2.08	269.33			2.00	268.71
43													
44	MACH & EQUIP DEPRECIATION			.06	8.43	.08	10.57	.10	13.04			.10	13.35
45	BLDG & IMPRV DEPRECIATION			.07	9.81	.07	9.04	.08	9.80			.07	9.31
46	UNPAID LABOR EXPENSES			.08	10.98	.10	14.43	.12	15.40			.21	28.41
47	EQUITY CHARGE			.21	29.61	.21	29.54	.26	33.95			.24	31.59
48	TOTAL ECONOMIC COST			1.91	271.67	2.16	298.46	2.44	316.95			2.32	310.87
49													
50	CORN NET AS % MGMT RETURN			-4.9		-34.2		-23622.4				-35.1	
51													
52	CORN EXPNS AS % TOT CASH EXPNS			45.9		44.9		44.1				40.0	
53													
54	CORN LABOR AS % TOT LABOR			28.3		28.9		28.1				29.4	
55													
56													
57													
58													

2.16

ENTERPRISE ANALYSIS DATA

				HIGH PROFIT 1/3		SIZE 5 AVG		LOW PROFIT 1/3				GROUP AVG	
01	GENERAL CROP INFORMATION												
02	TOTAL VALUE PRODUCTION			332190		259736		224007				102301	
03	% OF TOTAL GROSS PROFIT			66.7		69.8		73.2				62.9	
04	OWNED ACRES: TOTAL, ROT			677	598	511	448	522	456			216	182
05	RENTED ACRES: TOTAL, ROT			673	591	639	582	560	516			341	299
06													
07	SOYBEAN ENTERPRISES (20, 21)												
08	NUMBER OF FARMS			11		36		12				419	
09	OPERATOR BUSHEL EQUIVALENT			13798		13543		11422				6239	
10	OPERATOR SHARE OF ACRES			291		297		267				141	
11	YIELD/ACRE			47		46		43				44	
12													
13	TOTAL CROP VALUE			72162		71123		59964				33104	
14	CROP VALUE/ACRE			247.98		239.47		224.58				234.78	
15	TOTAL ALLOCATED COSTS			59675		69360		58228				32623	
16	NET CROP RETURN			12487		1762		1736				481	
17	NET CROP RETURN/ACRE			42.91		5.93		6.50				3.41	
18													
19	BUSHELS SOLD			8678		11912		13512				5506	
20	AVG SELLING PRICE/BU			4.96		4.82		4.83				4.79	
21		$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A	$/BU-----	$/A
22	SEED			.25	11.68	.29	13.24	.41	17.61			.28	12.18
23	INSECTICIDE					.03	1.29	.09	3.78			.01	.36
24	HERBICIDE			.37	17.59	.33	15.16	.31	13.08			.38	16.75
25	FERTILIZER & LIME			.04	2.08	.09	4.02	.12	5.22			.07	2.97
26	DRYING & STORAGE				.01								.07
27	OTHER CROP EXPENSE			.08	3.78	.04	1.96	.02	1.01			.04	1.82
28													
29	CASH MACH & EQUIP COST			.52	24.45	.69	31.44	.70	29.74			.71	31.58
30	MISCELLANEOUS			.06	2.85	.09	4.20	.09	3.86			.09	3.99
31	UTILITIES			.04	2.09	.08	3.66	.08	3.44			.08	3.74
32	RENT			.69	32.61	.97	44.29	.91	39.10			.69	30.50
33	PROP TAX & BLDG REPAIR			.14	6.48	.19	8.48	.19	7.97			.24	10.46
34	INTEREST			.44	20.95	.69	31.67	.91	38.83			.65	28.69
35	INSURANCE			.11	5.07	.14	6.60	.14	5.82			.17	7.35
36	LABOR HIRED			.19	8.92	.17	7.54	.08	3.31			.13	5.77
37	IRRIGATION												.04
38	TOTAL CASH EXPENSE			2.92	138.56	3.81	173.53	4.04	172.76			3.53	156.27
39													
40	FAMILY LIVING EXPENSE			.48	22.84	.54	24.77	.35	15.16			.76	33.82
41	PRINCIPAL PAYMENTS			.16	7.52	.12	5.29	.16	6.76			.14	6.26
42	TOTAL CASH FLOW COST			3.56	168.91	4.46	203.59	4.55	194.69			4.44	196.35
43													
44	MACH & EQUIP DEPRECIATION			.20	9.69	.24	10.94	.21	9.09			.27	12.11
45	BLDG & IMPRV DEPRECIATION			.22	10.59	.17	7.91	.13	5.51			.17	7.58
46	UNPAID LABOR EXPENSES			.33	15.61	.38	17.41	.33	14.02			.63	27.99
47	EQUITY CHARGE			.65	30.62	.52	23.73	.39	16.69			.62	27.43
48	TOTAL ECONOMIC COST			4.32	205.07	5.12	233.54	5.10	218.08			5.23	231.37
49													
50	SYBN NET AS % MGMT RETURN			9.1		2.8		997.7				1.7	
51													
52	SYBN EXPNS AS % TOT CASH EXPNS			15.6		22.6		20.2				23.8	
53													
54	SYBN LABOR AS % TOT LABOR			17.3		22.6		17.0				24.7	
55													
56													
57													
58													

Student Activity 4 Unit 2, Lesson 1

Returns for Effective Marketing

F. R. Mer is a young agribusiness person who is just starting to farm. Eighty acres are owned, 220 acres cash rented, and 200 acres crop shared on a 50/50 basis. Mer's total operator acres that yields are received from are 20 acres of waste, 50 acres of hay, 115 acres of soybeans, 43 acres of diverted government acres, and 172 acres of corn. Mer's average yields are 140 bushels per acre for corn, 35 bushels per acre for soybeans, and 1 ton per acre for hay.

One livestock enterprise consists of a 50-sow herd that farrow 2.8 times per year. Average weaning is 8 head per litter. The is a 10 percent death loss after weaning and averaging selling weight of market hogs is 220 pounds.

Mer becomes very concerned about marketing. He subscribes to a marketing newsletter for $350 per year, purchased a computer for $2,000 to do his own charting of markets, pays $150 to become a subscriber to Exnet, subscribes to Data-Line for a fee of $500 per year, and spends $400 for subscriptions to various magazines. Because of this Mer finds that an average of six hours per week are spent on marketing.

Questions:

Based on gross value of production, what percent of the marketing expense described above would you charge to each of the three major enterprises of corn, soybeans, and hogs (use today's market prices)?

Eg:			
	Corn $2.10 x 172A x 140Bu/A =	$ 50,568	29%
	Soybeans $5.50 x 115A x 35Bu/A =	22,137	13%
	Hogs $45/cwt. x 1,008 head x 2.2 cwt =	99,792	58%
		========	
	Gross production	$172,497	

How much does Mer have to increase his sales prices for each product to cover these marketing expenses?

Total costs of marketing:
$3,400 x 29% corn = $986 divided by 24,080 bushel = .04/bu
x 13% soybeans = $442 divided by 4,025 bushel = .11/bu
x 58% hogs = 1,972 divided by 2,218 cwt. = .89/cwt

If Mer increase his marketing price of hogs by $2.00 per cwt, $.08 on corn, and $.15 for soybeans, what is the return per hour for marketing? Are these increased marketing prices possible?

Hogs $2.00 x 2,218 cwt =	$4,436	$6,966 increase gross
Corn .08 x 24,080 bu =	1,926	-3,400 cost
Soybeans .15 x 4,025 bu =	604	
		$3,566 return to labor divided by 312 hours = $11.43 per hour
Increase gross	$6,966	

Mer also has the option of hiring a marketing consultant for $3,000 per year to do all his marketing for him. What would be one advantage and one disadvantage of hiring a consultant vs. doing his own marketing?

Advantages:	Hours could be applied to improving production efficiency Consultant might improve marketing returns as the person would spend more than six hours studying the markets
Disadvantage:	Production management might not be in tune with marketing management

Student Activity 5 Unit 2, Lesson 1

Risk Management for Farmers

Using Risk Management for Farmers as a reference, answer the following questions:

1. **What are six sources of risk?**
   Answer: Price risk
   Government policy risk
   Business and legal risk
   Management
   Discontinuity risk
   Production risk
   Technological risk

2. **What are the high and low price for corn from 1970 to 1974?**
   Answer: $1.05 to $3.44

3. **What are four marketing strategies to stabilize income?**
   Answer: Hedging
   Spreading sales
   Contract sales
   Forward pricing farm inputs

4. **What are five financial strategies to reduce risk?**
   Answer: Alternative cash flow plans
   Longer life debt payments
   Plan payments to coincide with inputs
   Maintain liquid financial position
   Maintain adequate cash and credit reserves

5. **What are five production strategies to reduce risk?**
   Answer: Diversify enterprises
   Emphasize profitable enterprises
   Adjust production plans to new situations
   Manage machinery and labor for most profitability
   Consider leasing or custom work to reduce capital outlays and risks

6. **To retain flexibility in production plans, fixed expenses should be a larger portion of the expense categories. True or False**
   Answer: False

7. **According to the study on hedging cattle production by McCoy and Price, unhedged operations had more net income but that hedging stabilized profits. True or False**
   Answer: True

8. **__________________ should be used along with a pre-harvest hedge to protect against crop failure.**
   Answer: Crop insurance

Student Activity 6 Unit 2, Lesson 1

Speculator or Hedger?

If you were a farmer, which of the following statements would be true of you? Would you be a business person or a speculator? Place the number of the statement that you think would be true of you in the blank.

_____ 1. Your major goal is selling at the high price of the year
2. Your major goal is making a profit

_____ 1. You focus attention on day-to-day movements
2. You focus attention on survival and growth of the business

_____ 1. You calculate how much money was lost by not selling at the high price
2. You calcualte what price is needed to cover costs

_____ 1. Your planning horizon is short-term profits
2. Your planning horizon is long-term growth of business

_____ 1. You look upon marketing as separate from the business
2. You integrate marketing as a part of the business

_____ 1. Your neighbors always hear you say: "When I sell, the price goes up. If I don't sell, the price goes down."
2. You always say to yourself: "I sold at a profitable level."

_____ TOTAL

Score 6 - 9	You tend to be a speculator
Score 10 - 12	You tend to be a hedger

What images come to mind when you think of a speculator?

What images come to mind when you think of a hedger?

Auto Advertisement

For Sale

NICE TWO DOOR HATCHBACK

LOW MILES, GREAT SHAPE

AC, STEREO, AUTOMATIC

RECENT TUNEUP, NEW TIRES

ASKING $3000

Marketing Objectives

SELLING AT THE HIGHEST PRICE

HIGH PRICE OF THE YEAR MAY BE PASSED BY IN ANTICIPATION OF HIGHER PRICES.

SELLING ABOVE THE AVERAGE PRICE

MORE ACHIEVABLE THAN SELLING AT THE HIGH BUT DOES NOT GUARANTEE A PROFIT.

NET SELLING ABIVE THE AVERAGE PRICE

INCLUDES THE COST OF STORING GRAIN TO ACHIEVE PRICE.

SELLING ABOVE THE MIDPOINT

SELLING ABOVE THE MIDPOINT BETWEEN THE HIGH AND LOW. AVERAGE PRICE MAY BE BELOW THE MIDPOINT.

MAKING A PROFIT

LOOKING AT PROFIT LEVELS SHIFTS ATTENTION AWAY FROM THE MARKET AND TOWARD THE FARM BUSINESS.

SELLING TO MEET CASH FLOW

MARKETING IN THIS WAY IS NOTHING MORE THAN HAULING GRAIN TO TOWN AND GETTING PAIDED.

MINIMIZING RISK

PRICE RISK IS OF SPECIAL CONCERN TO FARMERS WHO ARE HIGHLY LEVERAGED FINANCIALLY.

UNIT 2: Analyzing Marketing Alternatives

LESSON 2: Marketing Alternatives

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Describe the role of features/benefits in marketing.
2. Apply feature/benefit concepts to agricultural commodities.
3. Identify various markets for agricultural products and explain characteristics of each.
4. Recommend marketing alternatives for various situations and give reasons for their recommendation.

MATERIALS/REFERENCES NEEDED:

Marketing for Farmers

VISUAL MASTERS:

VM-1	Features and Benefits in Marketing
VM-2	Marketing Alternatives and Characteristics of Each
VM-3	Grain Marketing Alternatives
VM-4	Livestock Marketing Alternatives
VM-5	Live Weight, Mixed or Group Marketing
VM-6	Live Sort and Select
VM-7	Carcass Weight Selling (hot carcass)
VM-8	Grade and Yield Selling of Cattle
VM-9	Grade and Yield Selling of Hogs
VM-10	Carcass vs. Live Selling of Hogs
VM-11	Carcass vs. Live Selling of Cattle
VM-12	Livestock Marketing in the Future
VM-13	Livestock Marketing Strategies

INTEREST APPROACH:

Assume you have been unable to sell your used auto and you are no longer getting a response on your ad. You talk to a salesperson you know who suggests that you look at the features and benefits of your auto. List all features and then discuss how it may be a benefit to certain buyers using SA-1.

QUESTIONS:

1. **How are features and benefits used in marketing?**
Answer: Typically, in marketing, unique features of the product are detailed and the benefits of those

features to a specific potential purchasers are pointed out. Even if not stated, the benefits are implicit.

2. **What are features of farm products?**
Answer: Examples of features of farm products are color, test weight, moisture, damage, protein content, fat content, location of product, who produced it, etc.

3. **What are traditional marketing alternatives?**
Answer: Cash market, forward contracts, hedging, speculating (storing unhedged), options trading, specialty markets.

4. **What are four marketing strategies for grain?**
Answer: Sell, store, feed, special markets (cereals, edible products).

5. **What are four main methods of marketing livestock?**
Answer: Live weight, mixed or group marketing, live sort and select, carcass weight, and carcass grade and yield.

6. **What determines selection of marketing strategies?**
Answer: Tradition, storage facilities, cash needs, complexity of marketing alternative, financial situation, etc.

STUDENT ACTIVITIES:

1. Review VM-1 on features and benefits in marketing. Collect advertisements from farm magazines and evaluate the features and benefits presented using SA-2. Are all features explicitly stated?

2. Complete SA-2 and SA-3 looking at features and benefits of agricultural commodities for varied situations. Develop an advertisement for several Iowa farm commodities using what you now know about features and benefits.

3. Invite a local agricultural salesperson to class to discuss:
    a. What the difference is between selling and marketing.
    b. How they apply the features/benefit concept in marketing.

4. Review VM-2 presenting typical market alternatives. What are the characteristics of each? What agricultural products are marketed under the various alternatives?

5. Review VM-3 on grain marketing alternatives.

6. Review VM-4 through VM-13 on livestock marketing alternatives.

7. Discuss SA-4 describing agricultural marketing situations describing agriculture situations. Make a marketing recommendation and give two reasons why.

8. Using SA-5 have students determin when to sell their market hogs using the computer and spreadsheet program.

9. Using SA-6 have the students determine if feeding cattle for a longer period of time would be more profitable using the computer and spreadsheet program.

10. AgriData (AgEd Network) subscribers may want to use one or more lessons from the Grain & Livestock Hedging Course from AgriData.

CONCLUSION:

There are many alternative markets for agriculture production. One way to market is to look at the features and benefits of production. Traditionally farm production has not been marketed using quality factors although standards have been set.

Current markets include cash, forward contracting, hedging, basis contracting, options hedging, and deferred price mechanisms. These will change in the future.

Unit 2, Lesson 2 Student Activity 1

Features and Benefits of Selling an Auto

Drawing of Auto

Feature	Benefit
Low mileage	Many miles without repair bills
New tires	Safety and do not have to spend time buying tires
Recent tuneup	Auto is running in top condition with high mileage

Unit 2, Lesson 2 Student Activity 2

Worksheet to Analyze Advertisements

Ad	Features	Benefits
Farm chemical	Works by itself	I can watch markets on TV while the chemical controls weeds
	Controls all weeds	I only have to learn about one chemical

Unit 2, Lesson 2 Student Activity 3

Worksheet to Analyze Farm Products

Commodity	Features	Benefits
Corn for feeding	Good color	Looks fresh
	High test weight	Contains good
nutritional value		
	Low moisture	Will store well
	Produced by neighbor	I know he takes good care of his grain
	High protein content	Reduce soybean supplement cost
	Located at neighbor	Convenient and will store until needed
Wheat for export		
Corn for processing into alcohol		
Soybeans for processing		
Forage for feed		

Unit 2, Lesson 2 Student Activity 4

Situations to Explore Marketing Alternatives

Situation 1:

Ralph Jones stores all his grain on the farm. He put the grain in the bin at 16 percent moisture to avoid drying costs. The ladder to the grain bin is broken and he doesn't take time to fix it. He walks by the bin a month later and notices an unusual smell. He discovers that 50 percent of the corn is "out of condition." What are his marketing alternatives? What could he have done to have left other marketing options open to him?

Situation 2:

Supre Mart is thinking about growing five acres of rutabagas as an alternative crop. He lives on a major highway 15 miles from a city of 250,000 people. He is strictly a grain farm operation and feels that he has time in the year to handle this specialty crop. There is a tremendous interest in rutabagas as an alternative vegetable as identified in national trends. What factors will Supre need to consider when determining whether or not to grow rutabagas?

Situation 3:

Petunia Pig has cattle on feed now that will be ready in November. The current cash price is $62/cwt at local packing plant. There is some "talk" about fewer cattle on feed as what was reported. Petunia feels the price will go up when her cattle are ready but she has never used the futures markets and doesn't understand how to use it and doesn't want to learn. Petunia would like to take advantage of this marketing information and lock in some profit. What does Petunia need to understand about the futures market?

Situation 4:

Bonnie and Clyde raise 1,500 head of market hogs a year. The pig report is bullish saying there are fewer market hogs on hand and the futures market has reacted to this news. Bonnie and Clyde feel from other sources of information that the report is not accurate. They are very familiar with futures trading and in prior years have sold futures contracts in volatile markets. This has kept them and the banker up many a night. They would like to take advantage of this market upswing and lock in a profit yet feel there is more upside potential. In essence, they would like price insurance. What else do Bonnie and Clyde have to do before locking in a profit?

1. What alternatives, other than hedging, offer the availability of locking in a minimum price?
2. What are the advantages and disadvantages of each alternative?
3. Which alternative is better if Bonnie and Clyde are right about future price direction?
4. Which alternative is better if Bonnie and Clyde are wrong?

Features and Benefits in Marketing

FEATURE= A DISTINCTIVE PART, TRAIT OR CHARACTERISTIC OF AN ITEM.

BENEFIT = AN ADVANTAGE, GAIN OF PROFIT, OR VALUE OF A FEATURE TO A PARTICULAR SITUATION OR PERSON.

Can you have a feature which is not benefical?

What is more important to you,
Features or Benefits?

Unit 2
Lesson 22.32
VM 2

Marketing Alternatives and Characteristics of Each

Cash

Forward Contracts

Hedging

Options

Specialty Markets

Grain Marketing Alternatives

- How to Market
  - Sell
    - Pre harvest
      - Hedge
      - Contact

    - At harvest
      - Wet
      - Dry

    - Post harvest
      - Hedge
      - Unhedge (speculate)

  - Store
    - On farm
    - Commercial
    - Government Program
  - Special Market (Seed)
  - Feed
    - Existing Enterprise
    - Grain Bank
    - New Enterprise
    - Silage

Marketing for Farmers, P. 40

Livestock Marketing Alternatives

The four main methods of marketing livestock are:

- Live weight, mixed or group marketing
- Live Sort and Select
- Carcass weight or hot carcass
- Carcass grade and yield

Marketing for Farmers, P.138

Live Weight, Mixed or Group Marketing

Majority of Livestock are sold this way.

Buyer offers a price per cwt. for the entire lot of livestock.

Tendency for the average price for all lots bid.

Thus quality animals are underpriced and poor quality are over priced.

Recommened that quality animals not be sold by this method.

Marketing for Farmers, P.138

Live Sort and Select

Livestock are sorted into uniform groups by quality grade, yield grade, and/or dressing percentage.

A price is offered for each group.

More accurate method of evaluating and pricing livestock.

Major disadvantages is that it takes more time and the cost may offset the gains.

Who sorts may influence over grading or under grading of livestock.

Very similar to mixed selling is that only the obviously poor animals are sorted and priced separately.

Marketing for Farmers, P. 138-139

Carcass Weight Selling
(hot carcass)

Similar to mixed selling, except that a carcass price, not live price, is established for a group of livestock.

Buyer does not need to establish dressing percentage but quality grade and yield must be estimated.

Commonly used for slaughter cattle in the Midwest because of excessive mud carried by cattle.

The producer has to trust that the packer will weigh the carcasss properly and maintain accurate identification of cattle that are slaughtered.

Marketing for Farmers, P. 138

Grade and Yield Selling Of Cattle

Very few cattle are sold by this method.

Major advantage is that the seller receives actual value for the carcass of the livestock sold.

Should be used by producers who feel buyers are undervaluing their livestock.

Cattle with dairy or exotic breeding often produce a higher quality carcass than indicated by appearance.

Seller receives a detailed report on how the cattle graded. He can use this information in planning the feeding program, selecting types of feeders to purchase, and upgrading marketing skills.

Marketing for Farmers, P. 140

Grade and Yield Selling Of Hogs

Hogs are actually sold by a carcass weight and yield system.

USDA hog grades are yield grades, not quality grades.

Carcass price is dependent upon carcass weight and cutability (yield).

Carcasses are evaluated by a grader hired by the packer.

Only 15% of the hogs are sold by this method.

Only those hog producers who produce high quality hogs can gain the premium offered by this method.

Marketing for Farmers, P. 140-141

Carcass vs. Live Selling OF Hogs

How can you determine if selling on a carcass basis will net additional marketing dollars on your hogs?

One method is to occasionally split a group and sell some by live weight and some on the carcass basis and compare the returns.

Premium reported by packers are often overstated since the base price is typically for a below-average hog. (Usually a Number 3)

Marketing for Farmers, P. 142

Carcass vs. Live Selling Of Cattle

How can you determine if selling on a carcass basis will net additional marketing dollars on your cattle?

The expected dressing percent is the main consideration in deciding whether carcass or live selling is the best method of pricing a particular group of cattle.

Assume you received a bid of $70 per cwt live and $107 per cwt carcass bid for a group of cattle that dress 62%. Which is better?

> To compare the two bids, divide the live price by the dressing percent ($70 ÷.62= $112.90). In this case the live bid is better.

As a part of your marketing skills you should learn to closely estimate dressing percents!

Marketing for Farmers, P. 142

Livestock marketing in the future

There is little doubt that livestock marketing in the years ahead will continue to change. These changes will be influenced by:

Production Management

Production unit locations

Technology

Location and competitive structure of meat packing industry

Changes in grading systems

Market information dissemination and market regulations

Improved communication systems

Marketing for Farmers, P. 143

Livestock Marketing Strategies

Market livestock regularly at a specific day or week

Market livestock always at a specific weight or grade

Market livestock when facilities are full and new livestock is coming to the feedlot

Never sell livestock when the market is rising

Market when buyer says livestock are ready

Market when money is needed

Market when feed is used up

Market when going to town anyway

What are the pros and cons to these strategies?

Why are most strategies directed toward the cash market?

Marketing for Farmers, P. 146

UNIT 2: Analyzing Marketing Alternatives

LESSON 3: Basis

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Define basis.
2. Identify the components of basis.
3. Interpret the effects of various factors on basis.
4. Chart basis information.

MATERIALS/REFERENCES NEEDED:

Understanding Basis - The Economics of Where and When, Board of Trade Clearing Corporation

VISUAL MASTERS:

VM-1	What is Basis?
VM-2	What is Basis in the Grain Trade?
VM-3	Chart of Basis
VM-4	What are the Components of Basis?
VM-5	Basis Example
VM-6	Factors that Influence Basis
VM-7	How and Why Does Basis Fluctuate?
VM-8	How is Basis Affected by the Passage of Time?
VM-9	"Normal" Relationship Between Cash and Future Prices as Delivery Month is Approached
VM-10	Actual Relationship Between Cash and Future Prices as Delivery Month is Approached
VM-11	How Important Is It to Have Information About Local Basis?
VM-12	Where Can Price Information be Obtained?
VM-13	Plotting Actual Cash and Futures Prices on the Same Chart
VM-14	Plotting the Local Cash Price in Cents Above or Below the Futures Price
VM-15	Plotting the Futures Price in Cents Above or Below the Local Cash Price
VM-16	Why is a Knowledge of Local Basis Necessary In Order to Hedge?

INTEREST APPROACH:

Review VM-1 for a definition of basis. Apply this definition to the following situation:

You will receive an inheritance on the day you graduate. You find a dealer in California who markets 1965 Mustangs and has six of them for sale today at $10,000 each. The dealer has transportation expenses to deliver it to your doorstep on graduation day and will do so for $12,000. You indicate that you will think about it and let him know. But he indicates the offer is only good for today. The cost of a 1965 Mustang in Iowa is the same as in California ($10,000), but none can be found. Two months after your graduation, 1,000 Mustangs were discovered in an abandoned Iowa warehouse. The price in Iowa has now dropped to $8,000, but the price in California is still $10,000.

1. What was the basis on the first offer?
2. What is the basis on the second offer?
3. Did basis widen or narrow?
4. Why did basis widen or narrow?

After another week that same warehouse has a fire and all 1,000 Mustangs are destroyed in the fire. You call the dealer up again. Now he indicates he will sell one to you for $15,000 cash or $16,000 on graduation day.

1. What was the basis on the second offer?
2. What is the basis on the third offer?
3. Did basis widen or narrow?
4. Why did basis widen or narrow?

QUESTIONS:

1. **What is basis?**
   Answer: Basis is the number of cents per bushel that on any given day, the local cash price of a commodity is above or below the current price for a particular futures delivery month. Also, it is the number of cents or dollars/cwt that the local cash price of livestock is above or below the current price for a particular futures month.

2. **What are the two components of basis?**
   Answer: The amount by which the local cash price is below the Chicago cash price and the amount by which the Chicago cash price is currently below the nearby futures price. The key is the point of delivery price compared to the local price for the same time period.

3. **Why does basis differ from one location to another?**
   Answer: Locations nearer to primary areas of grain demand generally enjoy a price advantage because of reduced transportation expense.

4. **What is the most predictable feature of basis?**
   Answer: Its tendency to narrow. (For grains) See reference Marketing for Farmers for livestock basis patterns.

5. **Why does basis narrow?**
   Answer: Storage costs are reduced as the delivery month becomes closer.

6. **How is basis determined?**
   Answer: By calculating the difference between the current cash price and the price of the designated futures contract. NOTE: You can have a positive or inverted basis.

STUDENT ACTIVITIES:

1. Review VM-2 through VM-7 on basics of basis. Complete SA-1 and 2.

2. Review historical charts of basis. What cycles do you see, short and long? What influences these cycles? Do you see any long term trends? Why or why not? What is the impact of major market news on the charts?

3. Review VM-8 through VM-10 and discuss the effects on basis as the contract becomes due.

4. Review VM-11 through VM-15 on charting basis information.

5. Chart basis for two weeks using nearby futures month either on computer or graph paper. Clip and save news information and compare with changes in basis. Each student should select a different commodity to chart.

6. Based on movement of basis and marketing news, develop a price projection for your commodity. Prepare a report with rationale.

7. Review VM-16 and discuss why basis information is important and why you will use it for marketing.

8. AgriData (AgEd Network) subscribers may want to use lessons such as Cash Markets (FE660), Contracts: Forward vs Futures (FE780), Basis: Grains (FE1210), and Basis: Livestock (FE1260).

CONCLUSION:

Understanding basis is important for implementing and planning a good marketing program. Use of basis can help guide decisions such as whether to accept or reject a given price, whether and when to store, what delivery month to hedge, when to close a hedge, and how to turn an unusual basis situation into profit.

Example of Basis Situations

On a particular day the March futures price is $2.10. The Chicago cash price is $2.04. The Localville cash price is $1.80. The Localville basis is thus $.30 under March. On the following day there is a sudden surge in demand for grain for immediate delivery, and the Chicago cash price rises from $.06 under the March futures to only $.04 under the March futures. If the March futures price has remained at $2.10, the Chicago price will be $2.06 and the Localville cash price may increase to $1.82 (a basis of $1.28 which has narrowed).

Conversely, if the demand for grain for immediate delivery weakens - such as might be due to a decline in processing or export requirements or a large supply of cash grain seeking a limited supply of available storage space - cash prices in Chicago may fall relative to the futures price. The result: a widening of the basis.

Understanding Basis, p. 10

Effects of Specific Events on Basis

Now that you know that basis is affected by transportation costs, storage costs, interest, insurance, handling costs, short term supply and demand, and profit margins, how would you expect the following events to affect basis? Why?

1. A foreign country purchases a large amount of grain for immediate delivery.
2. A new railroad line between Iowa and Chicago is starting.
3. Another energy crisis arrives, doubling energy costs.
4. A local regional grain elevator explodes destroying 1/4 of the regional grain inventory.
5. The government initiates high taxes on the trucking companies in response to deteriorating road conditions.
6. Interest rates drop 4 percent.
7. A new insect which is resistant to traditional chemical applications emerges. This ubiquitous insect attacks stored grain and new control methods are expensive.
8. Chicago grain processors have been operating on a low profit margin because of competition. To stay in business in the future, they need to raise profit margins.
9. The local crop at harvest time is much larger than expected.
10. An earthquake strikes Iowa moving it an additional 500 miles away from Chicago.

KNOWLEDGE ANALYZER
WHY IS BASIS SO IMPORTANT?
UNIT 2, LESSON 3

Name:

______1. What was the farmer's price in the following transaction:

	Cash	Futures
March:	has 175 pigs on hand to market in July - wants $40.00/cwt. local July price- $39.00	Sells July contract @ $43.00
July:	sells 136 hogs locally @ $41.40	Buys July contract @ $44.00
Profit/Loss	$_	_

Net _

______ 2. If basis (narrows, widens) by delivery, the farmer will net more for the hogs than had been planned.

______ 3. A good manager will hedge 100% of the anticipated production. True or False

______ 4. Three methods have been suggested as guides as to what price to hedge. These are:

a. _

b. _

c. _

______ 5. A young farmer with large debts would be more interested in price protection than an older debt-free farmer. True or False

ANSWERS TO KNOWLEDGE ANALYZER
WHY IS BASIS SO IMPORTANT?
UNIT 2, LESSON 3

1. $40.50
2. Narrows
3. False
4. a. Profitability
   b. Fundamentals
   c. Charting
5. True

What is Basis?

BASIS IS

THE AMOUNT

THAT ON ANY GIVEN DAY,

THE LOCAL CASH PRICE

IS ABOVE OR BELOW

A FUTURE PRICE

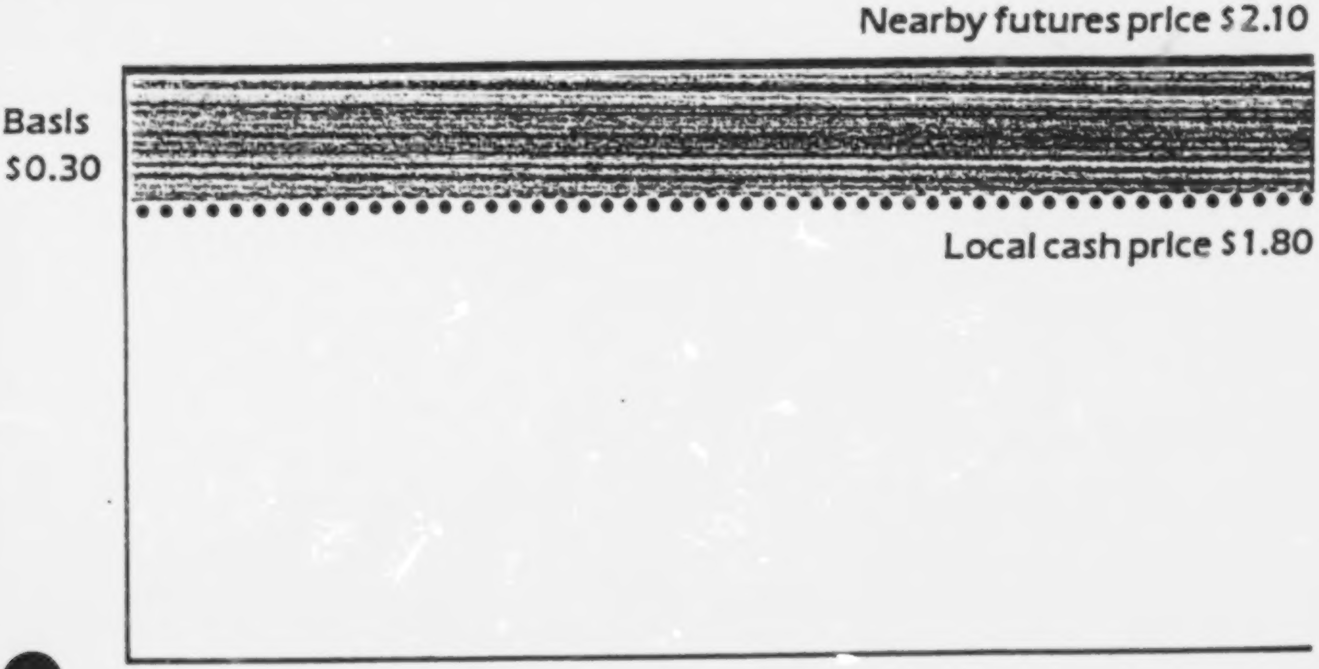
What is Basis in the Grain Trade?

When you hear someone in the grain business discuss basis, they are generally talking about the difference between the local cash price and the nearest futures delivery month.

Understanding Basis, P.9

Chart of Basis

If the local price on a particular day in January was $1.80 and the March futures price was $2.10, the March basis on that day would be $.30 under.



2.53

What are the Components of Basis?

FIRST COMPONENT :

IS THE AMOUNT BY WHICH THE LOCAL CASH PRICE IS BELOW THE CASH PRICE IN CHICAGO

THE DIFFERENCE IS ESSENTIALLY TRANSPORTATION COSTS

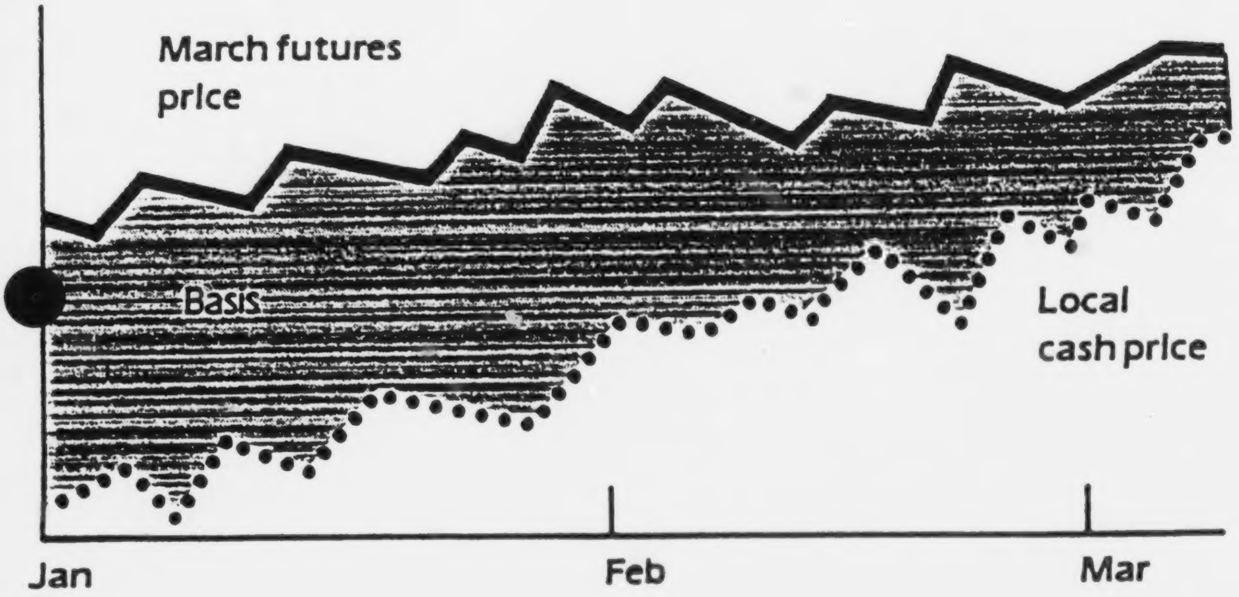
SECOND COMPONENT:

IS THE AMOUMT BY WHICH THE CHICAGO CASH PRICE IS CURRENTLY BELOW THE NEARBY FUTURES PRICE

THE DIFFERENCE IS DUE TO STORAGE, COSTS, INTEREST, INSURANCE, HANDLING COSTS, AND PROFIT MARGINS

Understanding Basis, P.9

Examples of Basis



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Factors That Influence Basis

TRANSPORTATION

STORAGE

INTEREST

INSURANCE

HANDLING COST

PROFIT MARGINS

SUPPLY AND DEMAND

Understanding Basis, P.9

How and Why does basis fluctuate?

The cash price of grain is determined by active competition between a large number of buyers and sellers.

Processors, Merchandisers, Exporters and retailers are continuously bidding for grain for immediate delivery using the nearby futures price as a reference point.

If demand is strong and/or supply is weak high cash prices relative to futures prices may result.

This would mean a narrowing of the basis.

Understanding Basis, P. 9

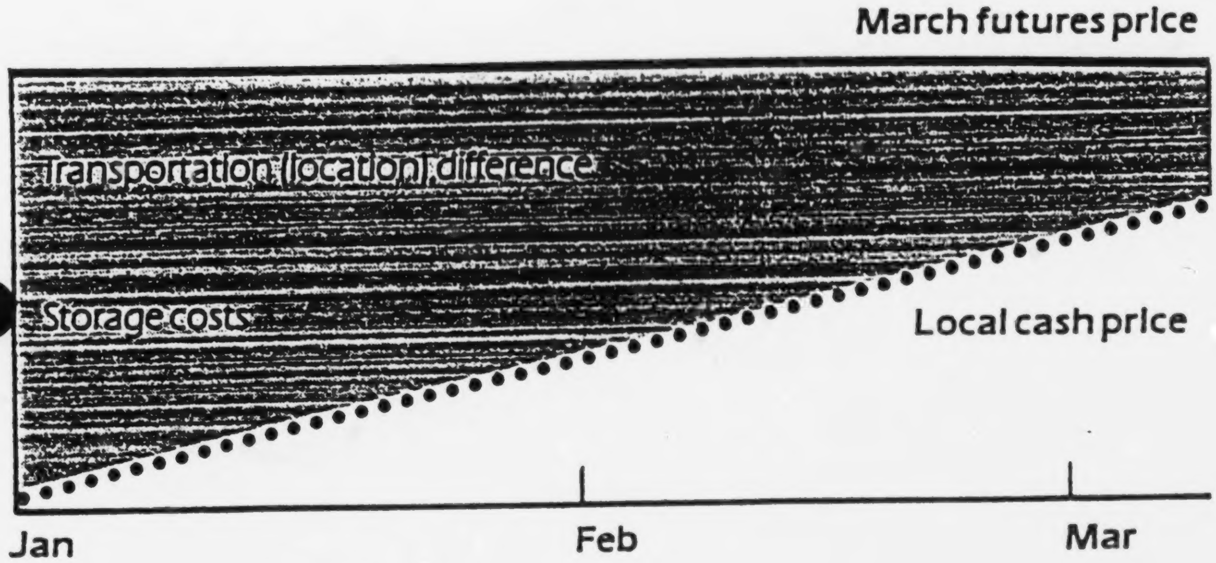
How Is Basis Affected By The Passage Of Time?

The most predictable feature of the basis is its tendency to narrow - by the amount of storage costs - as the delivery month is approached.

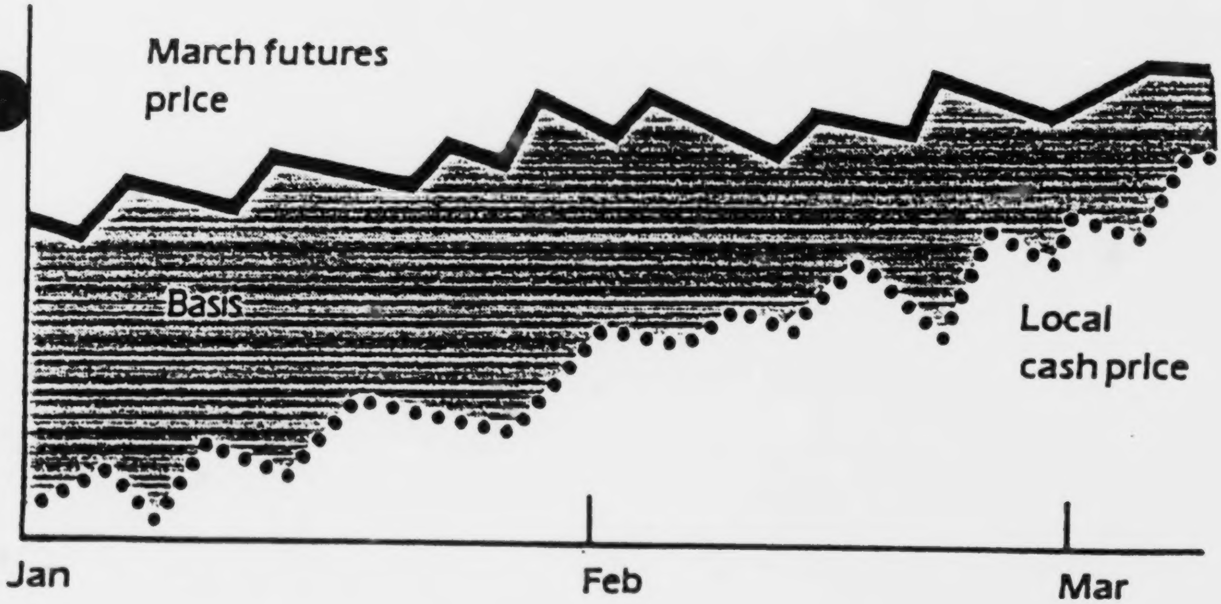
The tendency of the basis to become narrower as the delivery month is approaching is know as convergence.

Why would cash and futures price converge?

"Normal" Relationship Between Cash And Futures Prices As Delivery Month Is Approached



Actual Relationship Between Cash and Futures Prices as Delivery Month is Approached.



How Important Is It To Have Information About Local Basis?

Basis information can help you make important decisions about:

To accept or reject a given price

If and when to store your crop

If, when, and in what delivery month to hedge

When to close a hedge

How to turn an unusual basis situation into a possible profitable opportunity

Understanding Basis, P. 13

Where Can Price Information Be Obtained?

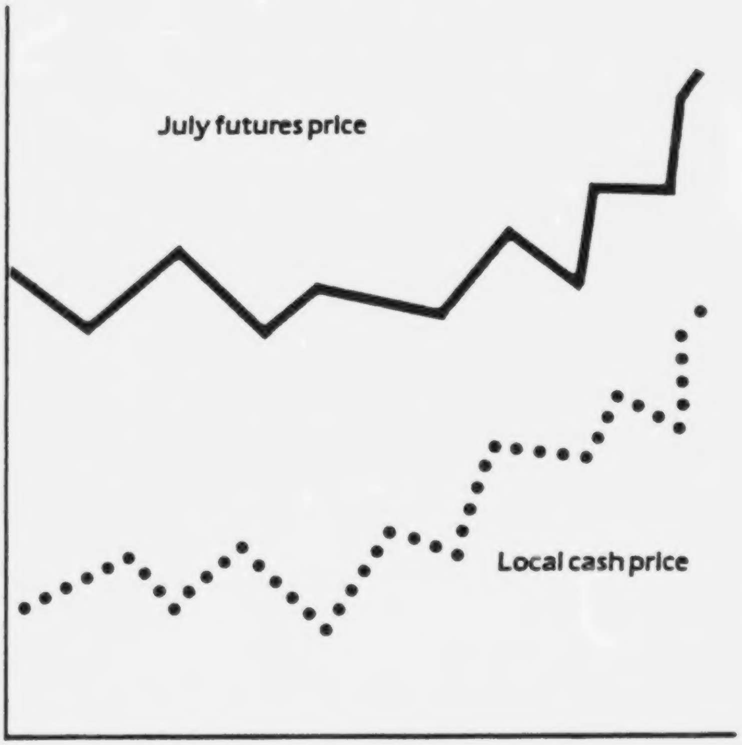
For cash prices, check with your local elevator.

Futures prices are published daily in most major newspapers.

Because futures prices can, and sometimes do, fluctuate widely during the course of a single day, you will need to decide on some consistent method of selecting which price to record. Probably the best choice is the closing price.

Understanding Basis, P. 14

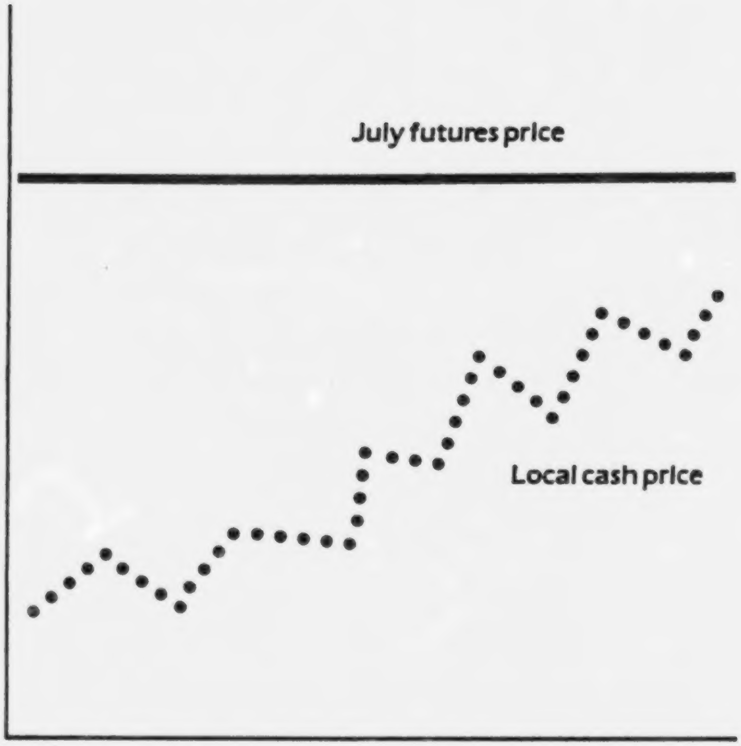
Plotting Actual Cash and Futures Prices on the Same Chart.



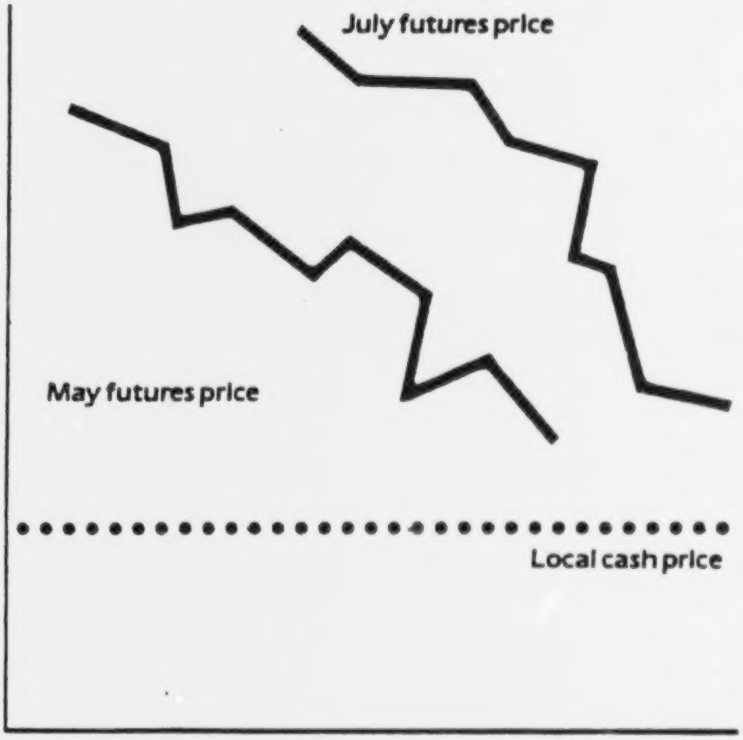
1. Plot actual cash and futures prices on the same chart. The difference between them is the basis. This approach has the advantage of showing dollars and cents price levels as well as the basis. The disadvantage is that variations in the basis may not be as readily apparent.

Plotting the Local Cash Price in Cents Above or Below the Futures Price.

2. Plot the local cash price in cents per bushel below (or above) the futures price. This doesn't show the actual level of prices but it does reveal even the smallest fluctuations in the basis and basis pattern at a glimpse.



Plotting The Futures Price In Cents Above Or Below The Local Cash Price.



3. Plot the futures price in cents per bushel above (or below) the local cash price. This method has the advantage that the basis for several different futures delivery months can be plotted on the same chart.

Why Is It Important To Understand The Local Basis In Order To Hedge?

A knowledge of basis is necessary in order to translate a given futures price into a probable price for local delivery.

The futures price minus the basis is usually the price the futures market is offering for your grain delivered at a local elevator during a particular month.

UNIT 2: Analyzing Marketing Alternatives

LESSON 4: Cash Markets

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Define cash markets.
2. Describe the function of price.
3. Discuss the effects of government support prices on cash prices.
4. Identify cash grain markets.
5. Discuss advantages and disadvantages of storing grain.

MATERIALS/REFERENCES NEEDED:

1. Marketing for Farmers
2. Student Reference for Agricultural Marketing

VISUAL MASTERS:

VM-1	What is the Cash Market?
VM-2	All agricultural production is eventually sold on the cash market
VM-3	Function of price
VM-4	Large Crop/Lower Price
VM-5	Short Crop/Higher Price
VM-6	Effect of Government Program on Price
VM-7	Market Changes
VM-8	Major Supply and Use Categories for Soybeans
VM-9	Major Supply and Use Categories for Corn
VM-10	Types of Cash Grain Markets
VM-11	How is Cash Price at Local Elevators Determined?
VM-12	Alternative Cash Grain Markets
VM-13	Advantages of Storing Grain
VM-14	Disadvantages of Storing Grain
VM-15	Corn Storage Results
VM-16	Soybean Storage Results

INTEREST APPROACH:

The instructor has the last can of pop in the whole world and will let you drink it in class. How much would you pay for it? Submit a bid with two reasons, SA-1, for the amount of your bid. Discuss the effects of supply and demand. Even though supply is low, can demand be low?

The instructor has found one last cache of pop and now has one for everyone in the class. Re-submit a bid using SA-1 with two reasons for your bid.

QUESTIONS:

1. **What is cash market?**
   Answer: The cash market is where you take your grain or livestock and exchange it for dollars.

2. **What farm commodities are marketed under a cash market?**
   Answer: All farm production has a cash market. It is the most common market.

3. **How does supply and demand affect the cash market?**
   Answer: When demand increases and/or supply decreases, prices should rise and when supply increases and/or demand decreases, prices should drop.

4. **What factors influence price?**
   Answer: Supply, demand, imperfect information, and adjustments to information.

5. **What are the grain market channels?**
   Answer: Country elevators, subterminal elevators, terminal elevators, and export elevators.

6. **Is storage a good marketing method for grain?**
   Answer: Short term storage tends to have good potential with little risk. Longer term storage has larger potential reward but also more risk. VM-15 and VM-16.

STUDENT ACTIVITIES:

1. Review VM-1 through VM-7 on cash markets.

2. Review VM-8 through VM-10 on types of cash grain markets. Read SA-2 on Grain Marketing Channels and answer questions on SA-3.

3. Review VM-11 through VM-14 on grain storage.

4. Determine averages of months and averages for years for corn and soybeans. Chart your findings on graph paper.

5. Have the students calculate a PIK problem using the computer and spreadsheet program (see computer disk).

6. Have the students determine the costs of storing grain using the computer and spreadsheet program (see computer disk).

7. Have the students work through a storage vs. CCC problem using the computer and spreadsheet program (see computer disk).

8. AgriData (AgEd Network) subscribers may want to use the Cash Markets (FE660) lesson.

CONCLUSION:

Cash markets are the most common markets for agricultural commodities. The market price changes with supply, demand, information, and reactions to information.

BID SUBMITTAL

I submit a bid of $ _

My reasons for the bid are:

1.

2.

Name ____________________________

Date ____________________________

Grain Marketing Channels

Our major grain crops follow similar patterns in their movement from farms to ultimate consumers. Grains are produced annually, while grain consumption occurs more or less evenly over time. This means that a major market activity is storage. One of the first steps in the marketing channel is the movement from field to storage.

Local Elevators: Most of our grain crop moves from on-farm storage or from farm fields to local elevator for grading, conditioning, and, in some cases, further storage. The local elevator collects the grain from many farms. In the process grain is dried, if necessary, sorted and blended into uniform grade lots as required before shipment. The local elevator is generally the first pricing point. It sells and arranges for shipment of grain to terminal elevators, processors, livestock and poultry feeders, and other users. In areas where livestock are produced, the local elevator may also process grain into formulated mixed feeds.

Subterminal Elevators: Shipment of grain from local elevators to subterminal elevators may occur by either truck or rail. In areas such as the Wheat Belt, where local elevators are dispersed over long distances, rail is the predominant transport mode. In the Corn Belt, where production density is greater and local elevators are closer together, trucks play a bigger role. In either case, transportation is a major part of the cost of linking subterminal to local elevators. In general, the subterminal elevator assembles grain into larger lots for further shipment by rail, barge, or ship. Storage is usually only an incidental aspect of the subterminal elevator operation. The emphasis here is on having sufficient storage to temporarily hold grain until an adequate quantity is available for further shipment. Many subterminal elevators purchase no grain from farmers and often only have receiving facilities for rail or other large-volume shipment modes.

Terminal Elevators: Inland terminal elevators look mainly to processing and export markets as outlets for their grain. Shipments from inland terminals usually move by rail or water into export and processing markets. A recent Minnesota study showed that about 37 percent of the inland terminals are owned by exporting companies. Multiple-region terminal elevator companies operated 14 percent of the inland terminal elevators, and single-region terminal companies operated the remaining 49 percent of the companies.

Export Terminal Elevators: While Gulf of Mexico ports receives the major attention in discussions of grain exports, East Coast, Great Lakes, and Pacific Coast ports are also important. Export terminals differ somewhat in their activity, depending on location. This is especially true for the Great Lakes ports where the severe winter closes the St. Lawrence Seaway for about three months each year. Great Lakes port elevators are used for storage during the winter when the St. Lawrence Seaway is closed. In the other major ports, terminal facilities function primarily as transfer points for grain moving into export vessels. The Gulf Coast ports have some of the most modern facilities with the highest utilization rates.

In the mid-1980's over half of U.S. port elevator capacity was owned by what were then the "big four" exporters (Cargill, Continental, Bunge, and Louis Dreyfus). While the popular press refers to "government grain deals," international grain companies handle the actual sales and shipping arrangements for international transactions, even under government-assisted financing of certain export programs. The companies typically are closely-held corporations or private companies that operate in many foreign markets.

Marketing for Farmers, p. 11-12

Unit 2, Lesson 4 Student Activity 3

Questions on Grain Marketing Channels

Name:

1. What are two marketing activities of local elevators?

2. What are two characteristics of subterminal elevators?

3. What are two characteristics of terminal elevators?

4. What are two characteristics of export terminal elevators?

5. Should private companies or should government be in control of exports? Why?

6. Why are the Gulf Coast ports the most active?

Key - Grain Marketing Channels

1. May process grain
   First collection point from farm storage
   Grain is dried, sorted and blended
2. Storage is usually incidental use of facilities
   Large volume of grain is assembled
   May ship up to 125 railcars of grain per shipment
3. Sell mainly to processing and exporting companies
   Shipments usually move by rail or water
4. Serve as transfer points to load ocean vessels
   Usually owned by large export company
5. Any answer would be correct if supported
6. Are not closed in winter
   Have larger geographical resource area
   Least costly to transport to these areas (eg. Mississippi River barge)

What is the cash market?

The cash market is where you take your grain or livestock and exchange it for capital.

All agricultural production is eventually sold on the cash market.

Why is this true?

Function of price

PRICE has to be at the level that will let a large or small crop last until the next harvest, but not leave a large surplus.

Student Reference for Agricultural Marketing, P.14

Large Crop / Lower Price

What happens to price when there is a large crop?

Price drops to allow for more consumption so that adequate year end surplus can be maintained.

How is consumption increased?

- livestock started on grain at lighter weights
- livestock fed out to heavier weights
- Wheat may be fed to livestock
- Alternative uses
-
-
-

Student Reference of Agricultural Marketing. P. 14

Short Crop / Higher Price

What happens to price when there is a short crop?

Price increase to reduce consumption and maintain adequate year end surplus.

How is consumption reduced?

- Cattle will be fed more roughage
- Hogs will be marketed at lighter weights
- Substitution
-
-
-
-
-

Student Reference of Agricultural Marketing, P. 14

Effect of Government Programs On Price.

THE GOVERNMENT FREQUENTLY HAS A "SUPPORT PRICE" WHICH ESTABLISHES A MINIMUM PRICE.

What would be the affect of a "support price"on cash prices in a year with a larger crop?

Cash price will not be lower than support price. Year end surplus would increase as price would not be low enough to encourage increased consumption.

What would be the affect of a "support price" on cash price in a year with a short crop?

Cash price will be above the "support price" and thus the "support price" will have no affect on the cash price.

What is the purpose of the government support price?

Market Changes.

The market price fluctuates as a result of the following:

SUPPLY

DEMAND

IMPERFECT INFORMATION

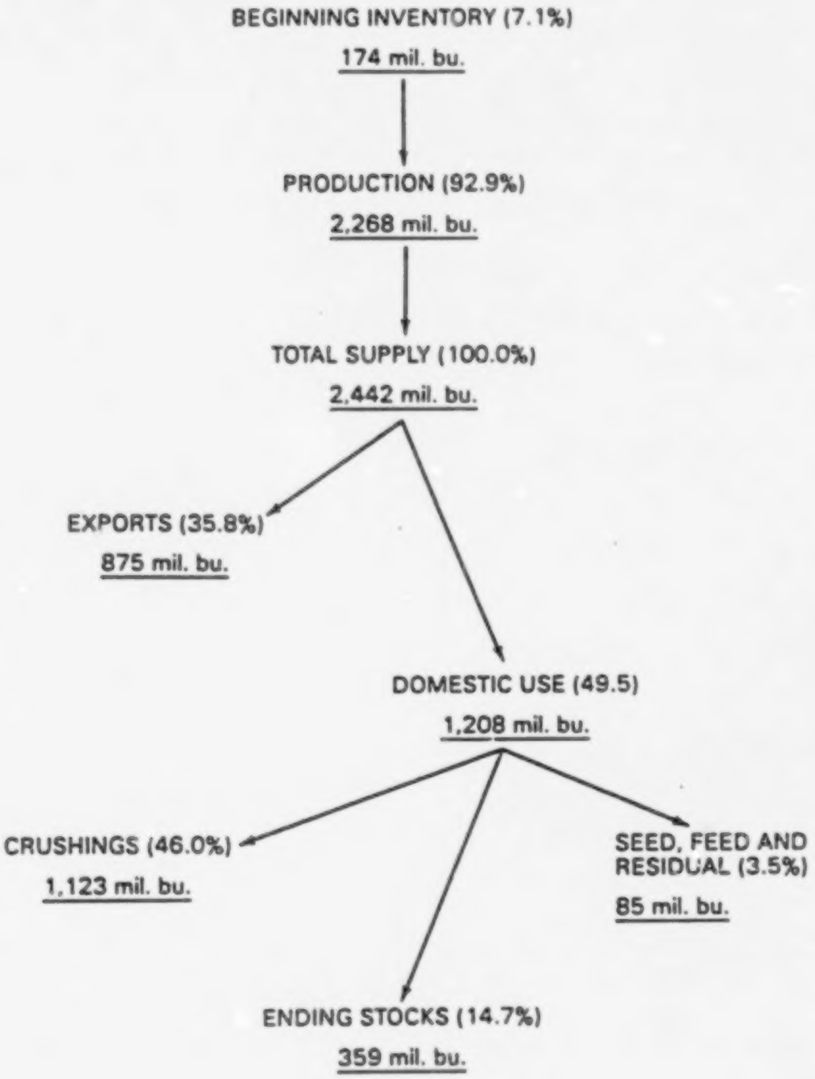
ADJUSTMENTS TO INFORMATION

Unit 2
Lesson 4
VM 8

2.80

Major Supply And Use Categories For Soybeans (9/85-8/86)

Figure 2-2. Major Supply and Use Categories for Soybeans, Sept. 1, 1979-August 31, 1980. (Share of Total Supply Shown in Parentheses.)

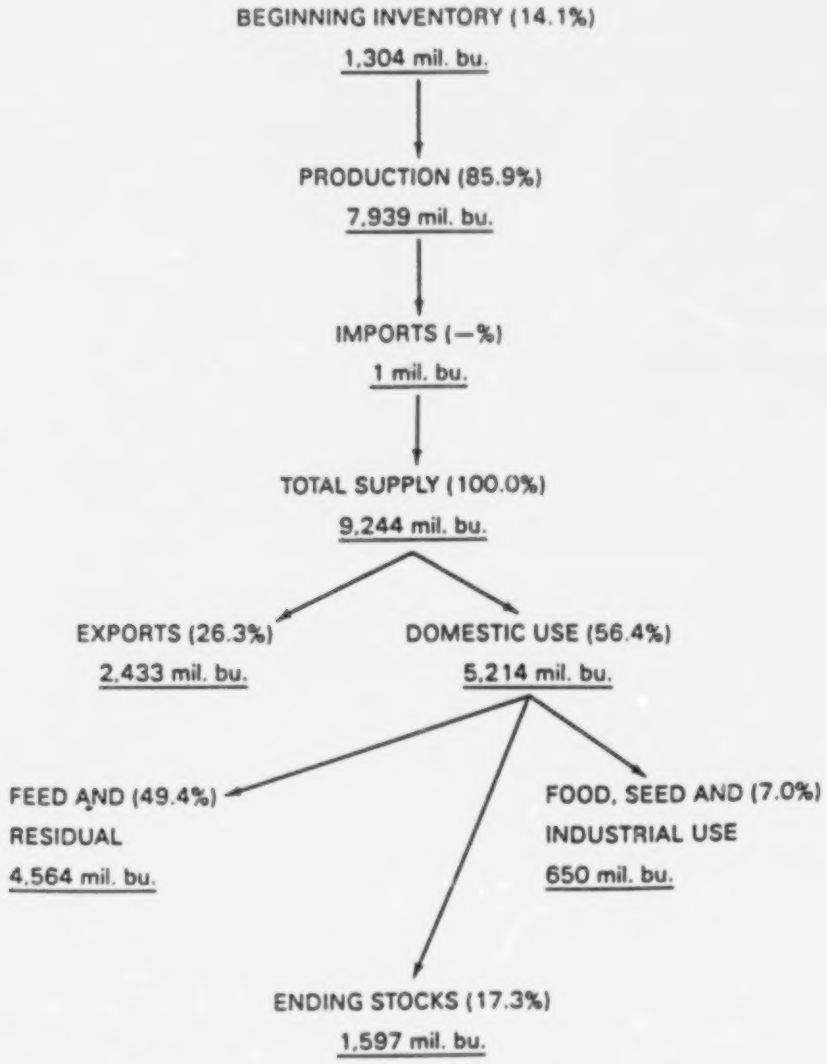

BEGINNING INVENTORY (7.1%)
174 mil. bu.
PRODUCTION (92.9%)
2,268 mil. bu.
TOTAL SUPPLY (100.0%)
2,442 mil. bu.
EXPORTS (35.8%)
875 mil. bu.
DOMESTIC USE (49.5)
1,208 mil. bu.
CRUSHINGS (46.0%)
1,123 mil. bu.
SEED, FEED AND RESIDUAL (3.5%)
85 mil. bu.
ENDING STOCKS (14.7%)
359 mil. bu.

Unit 2
Lesson 4
VM 9

2.81

Major Supply And Use Categories For Corn (9/85 - 8/86)

Figure 2-1. Major Supply and Use Categories for Corn, Oct. 1, 1978-Sept. 30, 1980. (Share of Total Supply Shown in Parentheses.)


BEGINNING INVENTORY (14.1%)
1,304 mil. bu.
PRODUCTION (85.9%)
7,939 mil. bu.
IMPORTS (—%)
1 mil. bu.
TOTAL SUPPLY (100.0%)
9,244 mil. bu.
EXPORTS (26.3%)
2,433 mil. bu.
DOMESTIC USE (56.4%)
5,214 mil. bu.
FEED AND (49.4%)
RESIDUAL
4,564 mil. bu.
FOOD, SEED AND (7.0%)
INDUSTRIAL USE
650 mil. bu.
ENDING STOCKS (17.3%)
1,597 mil. bu.

Types Of Cash Grain Markets .

What are the various channels for the cash grain market?

LOCAL ELEVATORS

SUB-TERMINAL ELEVATORS

TERMINAL ELEVATORS

EXPORT TERMINAL ELEVATORS

Student Reference for Agricultural Marketing, P. 13

How Is The Cash Price At Local Elevators Determined?

IN A GRAIN SURPLUS AREA, THE AREA PRICE WILL BE WHAT THE LOCAL ELEVATOR CAN FORWARD PRICE OR HEDGE MINUS:

Handling

Transportation

Profit

AND

Consideration of competitor's bid

Student Reference for Agricultural Marketing, P. 14

Alternative Cash Grain Markets.

- Different county elevators
- Sub terminal, terminal elevators less cost of shipping
- Transformers less cost of shipping
- Feed processors and/or farmer feeders
- Your own livestock
- As needed

Student Reference for Agricultural Marketing, P.17

Advantages Of Storing Grain

Avoid selling grain when basis is widest and prices are at a seasonal low.

Avoid waiting in lines at evelator

Physical life storage structure normally is much longer than depreciation period.

Allows storage all year at the same facility cost.

Allows quality control of grain for livestock feeding.

Increases the potential marketing period.

Helps management of income for tax purposes.

Allows control over harvesting operation.

Marketing for Farmers, P. 42

Disadvantages Of Storing Grain

- Requires extra handling of grain
- Demands extra attention to marketing
- Added investment and tax, whether facilities are used or idle.
- Landlord generally furnishes all storage and may recieve benefit for only one-half of storage.

Marketing for Farmers, P. 42

Corn Storage Results, 1959-85 (IOWA)

	Years Profitable	Avg Profit all years	Years of large loss	Avg loss in years of large Losses
Short term storage	16	$.026/Bu.	2	$.295
Storage into summer	10	$.042/Bu.	11	$.318
Storage into next year	4	8		

* Includes loss years

Marketing for Farmers, P. 47

Soybean Storage Results, 1959-85
(IOWA)

	Years Profitable	Avg Profit all years	Years of large loss	Avg loss in years of large Losses
Short term storage	16	$.09/Bu.	2	$.949
Storage into summer	10	$.298/Bu.	10	$.936
Storage into next year	7		8	

* Includes loss years

Marketing for Farmers, P. 47

UNIT 2: Analyzing Marketing Alternatives

LESSON 5: Understanding the Futures Market and Hedging as an Alternative

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Identify the differences between speculating and hedging.
2. Justify the need for a futures market.
3. Discuss the evolution of futures markets.
4. Analyze a hedging situation.

MATERIALS/REFERENCES NEEDED:

1. Marketing for Farmers
2. An Introduction to Agricultural Marketing Plans, Futures Markets, and Futures Trading Mechanics, IAVIM.
3. Understanding Basis, the Economics of Where and When, CBOT

VISUAL MASTERS:

VM-1	What is a Hedge?
VM-2	What is the Purpose of Hedging?
VM-3	Why is a Knowledge of Local Basis Necessary In Order to Hedge?
VM-4	Who Hedges?
VM-5	Hedging vs. Speculators
VM-6	Are Producers Speculators?
VM-7	Analyzing Live Cattle Hedge Return

INTEREST APPROACH:

You plan on going to college or trade school. A college offers you a futures contract to begin three years from now. It is a very simple contract with the following items stated:

University	Iowa State University
Degree	Agricultural Education
Starting Date	Fall, 19__
Number of Terms	Eight Semesters
Cost	$_________
Deposit	$_________

How do you feel about committing yourself to this contract? Is a 10 percent deposit reasonable? What are your benefits by signing the contract? What are the university's benefits? What would happen if you decided to change majors or colleges? Would you feel better if you could sell this contract when you are ready to go to college if you wanted to go to another college? Could a national clearing house for these contracts be set up? What would be the advantage?

QUESTIONS:

1. **What is the purpose of hedging?**
   Answer: The purpose of a hedge is to reduce price risk.

2. **Who is a hedger?**
   Answer: Individual who uses futures markets to establish a price for a commodity which is to be bought or sold at some time in the future.

3. **Who is a speculator?**
   Answer: Speculator is one who has price risks in one market (either cash of futures) that are not offset by opposite price risks in another market. They have no profits or losses in the cash market to offset their profits or losses in the futures market. The speculator profits only to the extent of being able to guess correctly which way the market moves.

4. **What are the advantages of hedging?**
   Answer:
   a. Lengthens the marketing year; allows up to 20 months to price a crop.
   b. May reduce price-level risk
   c. Basis is more predictable than cash price level
   d. Increases market flexibility, contract can be bought and sold back

5. **What are the disadvantages of hedging?**
   Answer:
   a. Requires margin money to open an account and to maintain if the futures market moves unfavorable
   b. Requires accepting basis risk
   c. Requires buying or selling in specified units (i.e. contract sizes).

STUDENT ACTIVITIES:

1. Reveiw VM-1 through VM-6 on hedging.

2. Read and discuss "An Introduction to Futures Markets" from An Introduction to Agricultural Marketing Plans, Futures Markets, and Futures Trading Mechanics."

3. Review SA-1 and SA-2 on details of futures contract for livestock.

4. Review VM-7 on analyzing a livestock hedge.

5. Answer question on hedging case studies SA-3 and SA-4.

6. Complete SA-5 and/or SA-6, sample hedging problems.

7. Read and discuss "The Mechanics of Buying and Selling a Futures Contract" from An Introduction to Agricultural Marketing Plans, Futures Markets, and Futures Trading Mechanics.

7. AgriData (AgEd Network) subscribers should consider using lessons such as: History of Futures (FE10), Definition of Speculate/Hedge (FE60) and Short and Long Hedges (FE110).

CONCLUSION:

Hedging on the futures market is a valuable tool to reduce price risk. The futures market is a variation of forward contracting that allows for more convenience or flexibility. It allows you to extend your market period and implement your market plan. Hedging has certain advantages over forward contracts that may make it more applicable in certain situations.

Live Beef Cattle Futures Contract for Chicago Mercantile Exchange and the Chicago Mid-America Exchange

Size of contract: 40,000 lbs. (up to 5% deviation permitted) (Chicago Mid-America Exchange -- 20,000 lbs.)

Daily price change: No more than $1.50 per cwt. from previous day's settlement price

Speculative position limit: No more than 450 contracts long or short in any contract month; no more than 300 contracts in the spot month

Brokerage fee: Negotiable between trader and broker

Initial margin deposit: Minimum established by the exchange and normally related to price level

Contract maturity: On approximately the 20th calendar day of contract month (holidays may alter date by one or two days)

Delivery period: Any business day of the contract month except on a day preceding a holiday

Contract trading months: February, April, June, August, October, and December

Delivery points: Par delivery at approved stockyards at Peoria, Illinois; Joliet, Illinois; Omaha, Nebraska; Sioux City, Iowa; and Greeley, Colorado

Par Delivery Unit:

Quality grade: USDA choice steers

Yield grade: USDA yield grade 1, 2, 3, 4 with no more than four head of yield grade 4 without discount

Weight: Delivery unit must average between 1,050 and 1,200 lbs. with no steer weighing more than 100 lbs. above or below the average weight of lot

Dressing percent: Delivery unit averaging from 1,050 lbs. to 1,150 lbs. must hot dress 62 percent or better. Delivery unit averaging from 1,225.6 lbs. to 1,200 lbs. must hot dress 63 percent or better

Health: All animals must be healthy (crippled, sick, or bruised animals will not be accepted)

Live Hog Futures Contract for
Chicago Mercantile Exchange and the Chicago Mid-America Exchange

Size of contract: 30,000 lbs. (up to 5 percent deviation permitted) (Chicago Mid-America Exchange -- 15,000 lbs.)

Daily price change: No more than $1.50 per cwt. from previous day's settlement price

Speculative position limit: No more than 1,500 contracts long or short by any one trader allowed; no more than 450 in any one contract month; and no more than 300 contracts in the spot month

Brokerage fee: Negotiable between trader and broker

Initial margin deposit: Minimum established by the exchange and normally related to price level

Contract maturity: On approximately the 20th calendar day of contract month (holidays may alter date by one or two days)

Delivery period: Monday, Tuesday, Wednesday, and Thursday of contract month, except on holidays or day preceding holiday

Contract trading months: February, April, June, July, August, October, and December

Delivery points: Par delivery at Peoria, Illinois; discounted at Omaha, Sioux City, East St. Louis, Kansas City, St. Joseph, Sioux Falls, and St. Paul

Par Delivery Unit:

Quality grade: USDA No. 1, No. 2, and No. 3 barrows and gilts and not more than 10 head USDA No. 3

Weight: Average weight between 210 and 240 lbs.

Health: All animals must be healthy (crippled, sick, or bruised animals will not be accepted)

Marketing for Farmers, p. 280-281

Hedging - Case Study 1

You are a banker and Producer Brown has met with you on July 15 to discuss a hedging loan. You agree that this is a good idea and approve the loan. During the meeting you take the following notes:

1. Estimated corn production will be 47,250 bushels.
2. Brown's marketing price objective is $3.00 per bushel.
3. The historical basis during harvest ranges from $.06 under to $.60 under with an average of $.33 under.
4. Brown has no available storage.
5. December corn futures are currently trading at $3.35 per bushel
6. The current cash foward bid for harvet delivery is $2.90 per bushel or $.45 under the December corn futures.
7. Brown is satisfied with the general price level and decides to price about one-third of the expected crop.
8. The brokerage commision is $60 per contract.

Questions:

1. What price could be expected from a hedge (excluding brokerage fees)?
   Answer: $3.02

2. What is the brokerage fee on a per bushel basis?
   Answer: $.01

3. How does the hedge price compare to the forward contract price?
   Answer: Hedge is $.12 higher ($.11 if including brokerage fees).

4. Should Brown hedge or forward contract? Why?
   Answer: Hedge, because Brown would receive a higher return due to basis improvement. The most important reason to hedge is because it meets Brown's price objective.

5. How many futures contracts will Brown need?
   Answer: Three 5,000 bushel contracts

6. What is Brown's action on the futures market on July 15, buy or sell?
   Answer: Sell futures

Hedging: A Guide for Agricultural Lenders, p. 17

Hedging - Case Study 2

Farmer Green has met with Farmer Brown over coffee and spent some time discussing the futures market. Brown has told Green that you are fairly knowledgeable about marketing and sends him over to you in May.

After meeting with Green, you approve a hedging loan for him. You have the following notes from your meeting with Green:

1. Estimated corn production of 60,000 bushels and Green plans to price at least half of it after planting and before harvest
2. Marketing price objective of $2.70 per bushel
3. Average local historical basis is $.23 under the December futures in mid-October when he will complete harvest
4. On May 10 the December corn futures are trading at $2.74 per bushel and have been within a few cents of this price for the past 10 days
5. The current cash forward bid for an October delivery is $2.40 per bushel
6. The long range weather forecast calls for light to moderate rainfall and warmer than normal temperatures

Questions:

1. Would you advise Green to hedge any of his corn at this time? Why or why not?
   Answer: Yes! The expected return from hedging is $2.51 which is $.19 lower than his target. Local weather patterns rarely affect futures prices and local prices to any extent. In fact, droughts elsewhere could increase prices dramatically.

2. How does the hedge price compare to the forward contract price?
   Answer: Hedge is $.11 higher. Farmer Green should review options and other alternatives. Remember, for corn, the loan and other government program benefits establish a minimum price already.

3. Should Green hedge or forward contract? Why?
   Answer: Hedge, because Green would receive a higher return.

4. How many futures contracts will Green need?
   Answer: Six 5,000 bushels contracts.

5. What is Green's action on the futures market on July 15, buy or sell?
   Answer: Sell futures.

Hedging: A Guide for Agricultural Lenders, p. 17

Unit 2, Lesson 5 Student Activity 5

Name:

A. Sample hedging problem (storage profit):

1. Assume you have 2,000 bushels soybeans in storage on your farm.

2. You have the facilities, finances, etc., to store until next May (want to empty the bins then for wheat, fescue, etc.).

3. You have some options:
   a. Store and sell for cash sometime between now and May (none hedged) (price averaging method).
   b. Store and hedge all or part.
   c. Sell on present cash market and deliver.
   d. May use Board of Trade (5,000 bushels) or Mid-America (1,000 bushels).

4. If hedged, buy back contracts the day you sell cash beans.

B. Keep a weekly chart of soybean prices for both cash beans and May beans.

Cash

Receipts

_____ bu.[1] @ $______ = $____

$_____

Expenses:

$_____

Storage Costs[2] = $100.00

Profit over Storage = $_____

$_____

$_____

$_____

$_____

Futures[3]-

Sale

______ contracts @ $_____ = $_____

______ contracts @ $_____ =

______ contracts @ $_____ =

Bought:

_____ contract @ $_____ =

Commission Hedged =

Interest on Margin =

Total Costs =

2.97

Profit (Loss) =

$_____

Total Receipts = $_____ (over storage)

[1] Figure 2,000 bu. if sold immediately; figure 1,980 (1% shrink) if stored

[2] Since you own the bins and have beans in them, costs are about the same from this point whether or not you store

Unit 2, Lesson 5 Student Activity 6 (Use in Fall)*

A. Sample hedging problem (growing crop):

1. Assume you have 150 acres wheat growing that you expect to yield 40 bushels per acre.
2. You may hedge or not hedge. You also have options of hedging a 5,000 bushel contract on the Board of Trade or 1,000 bushel contracts on the Mid-America Exchange; you may hedge 1,000 bushels in October, another in December, etc. If you hedge over 6,000 bushels, you are speculating. If you hedge none, you are probably speculating.
3. Buy back contracts prior to the time school is out. May contract might be applicable (some teachers may want to let assignment last until July to be more practical).
4. Buy back contracts the day you sell wheat.
5. Use attached form for information, etc.

B. Maintain a chart of July wheat and local cash wheat.

*Note to teacher: This assignment might be more applicable if made in spring using corn, beans, milo, or cotton and headed toward November.

What Is A Hedge?

A HEDGE IS A SALE OR PURCHASE OF A CONTRACT ON THE FUTURES MARKET FOR THE PURPOSE OF ESTABLISHING A PRICE IN ADVANCE OF ACTUAL CASH DELIVERY.

Understanding Basis, P.16

What is the purpose of hedging?

THE PRIMARY PURPOSE OF A HEDGE IS SIMPLY TO REDUCE PRICE RISK.

Understanding Basis, P.16

Why Is A Knowledge Of Local Basis Necessary In Order To Hedge?

A knowledge of basis is necessary in order to translate a given futures price into a probable price for local delivery. The futures price minus the basis is, in effect, the price the futures market is offering you.

An ability to rapidly translate futures price into prices for local delivery is essential in order to hedge effectively - and in order to decide if and when to hedge.

Understanding Basis, P.16

Who Hedges?

FARMERS AND ELEVATOR OPERATORS

Hedge to protect the value of grain in storage or to establish a selling price for their grain.

EXPORTERS

Hedge to lock in the cost of grain they have made commitment to sell.

PROCESSORS

Hedge to protect themselves against an increase in raw material prices or a decline in the value of their inventory.

Understanding Basis, P.16

Hedging versus Speculators?

Hedgers:

Are individuals who use futures to establish a price for a commodity which is either owned or committed for production and will be deliverable at some time in the future.

Speculators:

Have no commodity to deliver, profits only to the extent of being able to guess correctly which direction the market is moving. There are no cash transactions to offset profit or losses on the futures market.

Understanding Basis, P.16

Are Producers Speculators?

MOST PRODUCERS ARE SPECULATORS. THEY SINK TIME AND MONEY INTO PRODUCTION AND YET THEY HAVE NO IDEA WHETHER OR NOT THEY WILL HAVE A PROFIT UNTIL THEIR PRODUCT IS SOLD.

IF YOU USE THE FUTURES MARKET TO FORWARD PRICE YOUR PRODUCTION, YOU ARE A HEDGER.

Student Reference for Agricultural Marketing, P. 30

Analyzing Live Cattle Hedge Return

Octobet Live Beef Futures:....................................$65.00/cwt.

Cost of Feeding...$57.50/cwt.

Localizing Cost:

Transportation	$.50 / Cwt.
Shrink	$.70 / Cwt.
Delivery Marketing Cost	$.50 / Cwt
Quality Adjustment	$.33 / Cwt.
Delivery Discount	None for Cattle
Brokerage Fee	$.12 / Cwt.
Interest	$.25 / Cwt.
TOTAL LOCALIZING COSTS	$ 2.40/cwt

ESTIMATED NET HEDGE RETURN $5.10/cwt.

FORCASTED CASH PRICE $63.00 TO 67.00

EXPECTED NET RETURN WITHOUT HEDGING $5.50 TO 9.50

SHOULD YOU HEDGE?

UNIT 2: Analyzing Marketing Alternatives

LESSON 6: The Options Market

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Identify agricultural commodities traded on options
2. Describe characteristic of options
3. Discuss advantages and disadvantages of options
4. Calculate minimum expected price using options

MATERIALS/REFERENCES NEEDED:

1. Commodity Marketing, Options on Agricultural Futures, Chicago Board of Trade - Teachers Guide 312/435-3500
2. Marketing for Farmers

VISUAL MASTERS:

VM-1	New Marketing Tool
VM-2	Managing Risk
VM-3	The Essence of Options
VM-4	What are Options
VM-5	Put Options
VM-6	Call Options
VM-7	Buying and Selling Puts and Calls
VM-8	Major Reasons to Consider Options
VM-9	Margin Requirements
VM-10	Land Option
VM-11	Elements of an Option
VM-12	Marketing Options with Declining Prices
VM-13	Marketing Alternatives with Rising Prices
VM-14	Other Uses of Agricultural Options
VM-15	Agricultural Commodities Options

INTEREST APPROACH:

If the instructor were to offer an option to purchase grades for this class, would you be interested?

It would cost you $10 for the right to purchase an A for the sum of $100. It would cost you $8 for the right to purchase a B for $80. It would cost you $6 for the right to purchase a C for $60. There are no options for D's.

If you purchased the option for a B and then earned an A for the class, what would you do with your option? If you purchased an option for a B and earned a C, what would you do with your option? Why would you want to purchase an option?

QUESTIONS:

1. **What are options?**
   Answer: An option conveys the right, but not the obligation to buy or sell a particular commodity at a certain price for a limited period of time.

2. **What two types of risk keep many farmers from forward contracting but that options help control?**
   Answer: Production risk - selling more grain than produced. Price increase risk - risk that price will go higher

3. **What type of option transaction would a grain farmer typically implement?**
   Answer: Purchase a put (a right to sell)

4. **What are major reasons to consider options in a marketing plan?**
   Answer: Price insurance, Limited financial obligation, Marketing flexibility

5. **What are the six elements of an option?**
   Answer: Buyer, Seller, Exercise price, Expiration date, Premium, Underlying commodity

STUDENT ACTIVITIES:

1. Review VM-1 through VM-9 on the basics of Futures Options. What created the need for options? Where would the terms put and call arise from? Why would the Chicago Board of Trade develop options trading?

2. Review VM-10 and VM-11 on the elements of an option. Can you think of other situations where options trading is common in addition to land sales? What are the benefits to the buyer of the options? What are the benefits to the seller of the options? If possible, write an options contract for a situation you have discussed.

3. Review VM-12 and VM-13 examining marketing alternatives under declining and rising prices. Develop a blank worksheet and explore current marketing options.

4. Review VM-14 and VM-15 on current agricultural commodities traded options and other uses of options trading.

5. Complete SA-1, a self test on options.

6. AgriData (AgEd Network) subscribers should consider using lessons such as About Profiting with Options (FE9993), Intro/Option Speculation (FE100), What is an Options

Market (HS645), Why Buy or Sell Options? (HS646), and Understanding Options Terms (HS647).

CONCLUSION:

Producers are constantly looking for new and better ways to meet price objectives and improve commodity markets. Trading of options on agricultural future contracts has introduced a new alternative that offers less risk and more price protection than many of the others. Future options should be considered for three major reasons: price insurance, limited financial obligations, and marketing flexibility.

Self Test on Options

1. Which of the following features of agricultural options is negotiated in the auction pit?
   a. Option strike price
   b. Expiration date
   c. Premium
   d. Contract size

2. Match the correct description with the option action:

   _____ Buy a put
   _____ Buy a call
   _____ Sell (write) a put
   _____ Sell (write) a call

   a. Right to buy the underlying contract
   b. Obligation to sell the underlying contract if exercised
   c. Right to sell the underlying contract
   d. Obligation to buy the underlying contract if exercised

3. If a producer has soybeans in storage (unsold), what is the most logical action for him/her to take if he wishes to minimize price risk and obtain price protection?

   a. Buy a put
   b. Buy a call
   c. Write a put
   d. Write a call

4. If a producer buys a put option against inventory, does he/she think prices will rise or fall?

5. If a speculator buys a put (with no other option or futures position), does he/she hope prices will rise or fall?

6. Match the correct description with the put option classification:

   _____ In-the-money put option
   _____ At-the-money put option
   _____ Out-of-the money put option

   a. Strike price is lower than the current value of the underlying contract
   b. Strike price is greater than the current value of the underlying contract
   c. Strike price equals the current value of the underlying contract

New Marketing Tool
OPTIONS

Starting late in 1984, a new marketing tool became available which offers grain and livestock producers the opportunity to protect against declining prices while retaing the opportunity to benefit from price increases.

Marketing for Farmers, P. 215

Managing Risk
(OPTIONS)

This tool should help you deal effectively with two types of risk that keep farmers from forward contracting.

Production Risk---the risk of selling more grain than you produce, because of low yields.

Price Increse Risk---the risk that prices will rise after you forward contract the crop.

Marketing for Farmers, P. 215

The Essence of Options

THE ESSENCE OF
FUTURES
OPTIONS IS PRICE
INSURANCE

What Are Options

An option conveys the right, but not the obligation to buy or sell a particular commodity at a certain price for a limited period of time.

Put Options

Gives the option buyer the right but not the obligation to SELL the underlying contract.

Call Options

Gives the option buyer the right but not the obligation to BUY the underlying commodity.

Buy
Put

or

Sell
Put

Buy
Call

or

Sell
Call

Major Reasons to Consider Options

PRICE INSURANCE LIMITS RISK WHILE RETAINING THE POTENTIAL FOR UNLIMITED PROFITS

LIMITED FINANCIAL OBLIGATION
MAXIMUM LOSS IS LIMITED TO THE PREMIUM

MARKETING FLEXIBILITY
LET IT EXPIRE, EXERCISE IT, OR OFFSET IT

Unit 2
Lesson 6 2.118
VM 9

MARGIN REQUIREMENTS

BUYER	**Must deposit initial margin requirement and maintain.**	**Pay option premium**
SELLER	**Must deposit initial margin requirement and maintain.**	**Premium is deposited in sellers account.** **Margin must be maintained at option premium.**

commodity Marketing, P. 14

Land Options

ON JUNE 1, A FARMER APPROCHES HIS NEIGHBOR ABOUT PURCHASING 120 ACRES OF LAND ADJACENT TO HIS FARM AT $800 PER ACRE. THE FARMER IS FAIRLY SURE THAT HE WANTS THE LAND, BUT WILL NOT BE ABLE TO ARRANGE FINANCING FOR SIX MONTHS. THE NEIGHBOR PROPOSES TO GRANT A SIX MONTH OPTION ON THE PROPERTY AT $800 PER ACRE IN EXCHANGE FOR A $10 PER ACRE FEE ($1,200 TOTAL FEE)

BUYER/HOLDER/OWNER -- FARMER

SELLER/GRANTOR/WRITER -- NEIGHBOR

EXERCISE/STRIKE PRICE -- DECEMBER 1

PREMIUM--$10 PER ARCE.

Commodity Marketing, Options on Agricultural Futures, PP. 2-3

ELEMENTS OF AN OPTION

BUYER

SELLER

EXERCISE PRICE

EXPIRATION DATE

PREMIUM

Unit 2
Lesson 6
VM 12

MARKETING OPTIONS WITH DECLINING PRICES

SOYBEANS

CASH	FORWARD CONTRACT	HEDGE	OPTION
MAY 15			
Do not price until harvest	Contract for fall delivery at $5.60 PER BU.	SELL Nov contract at $6.00/BU; Expected basis $.30 under; expected price$5.70 per bu.	Buy Nov Put with $6.00 Strike Price Premium$15/bu; expected basis $.30 under minium expected price $5.55 per bu.
OCT 15			
Sell soybeans at $4.80/bu.	Deliver soybeans receive $5.60/bu	Buy Nov contract at $5.00/bu;sell soybeans in cash market at$4.80/bu	let option expire; sell soybeans in cash market at $4.80 per bu.
Results		cash futures	cash futures premium
$4.80/bu	$5.60/bu	$4.80/bu +$1.00 $5.80/bu	$4.80 +1.00 -0.15 $5.65/bu

Commodity Marketing, Options on Agricultural Futures, P. 19

Unit 2
Lesson 6 2.122
VM 13

MARKETING ALTERNATIVES WITH RISING PRICES

SOYBEANS

CASH	FORWARD CONTRACT	HEDGE	OPTION
MAY 15			
Do not price until harvest	Contract for fall delivery at $5.60 PER BU.	SELL Nov contract at $6.00/BU; Expected basis $.30 under; expected price$5.70 per bu.	Buy Nov Put with $6.00 Strike Price Premium$15/bu; expected basis $.30 under minium expected price $5.55 per bu.
OCT 15			
Sell soybeans at $7.65/bu.	Deliver soybeans recieve $5.60/bu	Buy Nov contract at $8.00/bu;sell soybeans in cash market at$7.65/bu	let option expire; sell soybeans in cash market at $7.65 per bu.
Results		cash futures	cash futures premium
$7.65/bu	$5.60/bu	$7.65/bu +$2.00 $5.65/bu	$7.65 -0.15 $7.50/bu

Commodity Marketing, Options on Agricultural Futures, P. 18

Other Uses of Agricultural Options

As a substitute for storage, by selling or Pik and rolling grain at harvest and buying call opitions to take advantage of possible post harvest price strength.

As protection against rising cost of grain or soybean meal to be purchased later for a cattle feeding operation.

As protection against rising cost of replacement feeder cattle that will be purchased later for a cattle feeding operation.

As a means of earning grain storage income by writing options contracts.

As a tool for "fencing" returns for your grain or livestock enterprise, setting an upper and lower limit on potential prices and thus cutting price insurance cost below those of a straight put options purchase.

Marketing for Farmers, P. 226

Agricultural Commodities Options

Trading Now

-Soybeans

-Corn

-Chicago Wheat

-Kansas City Wheat

-Hogs

-Cattle

-Cotton

Soon--
-Meal, Oil

UNIT 2: Analyzing Marketing Alternatives

LESSON 7: Forward Cash Contracts

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. State four reasons for forward contracting
2. Identify characteristics of a forward contract
3. Discuss advantages and disadvantages of forward contract
4. Evaluate a forward contract

MATERIALS/REFERENCES NEEDED:

1. Student Reference for Agricultural Marketing - MO
2. Marketing for Farmers

VISUAL MASTERS:

VM-1	Why Cash Forward Contracts?
VM-2	Characteristics of a Forward Contract
VM-3	Advantages and Disadvantages of Forward Contracting
VM-4	Comparison of Hedging and Forward Contract
VM-5	Grain Contracting Alternatives
VM-6	Provisions of a Forward Contract
VM-7	Understanding Forward Cash Contract
VM-8	Contracting Guidelines

INTEREST APPROACH:

You have been hired by a cereal manufacturer as a buyer for raisins for the raisin bran. It is your responsibility to assure the company a supply of top quality raisins for the coming 12 months.

How would you meet this challenge? What items do you need to negotiate? (Price, storage, quality, who delivers, quantity, packaging, terms of payment, when delivered.)

QUESTIONS:

1. **Why cash forward contract?**
   Answer: To capture pricing opportunities, reduce price risk, guarantee a market outlet, increase availability of borrowed capital.

2. **What commodities are sold on forward contract?** Answer: Almost any commodity can be sold on a forward contract. Many times an elevator or processing plant will then go on the commodity board to reduce their risk after forward contracting with a grower.

3. **What are the provisions of almost any forward contract?** Answer: Date, parties to contract, commodity, quantity, packaging, specifications, price, terms of payment, point and method of delivery, time of final delivery.

4. **What are the advantages of forward contracting?** Answer: Eliminates market risk and uncertainity, contract smaller quantities, no margin or commission required, need for storage may be eliminated.

5. **What are disadvantages of forward contracting?** Answer: Less market flexibility, risk of default by parties involved in the contract, grower must deliver at contract price. Contracts are not standardized and are more difficult to cancel or offset.

STUDENT ACTIVITIES:

1. Seed corn companies typically sell seed corn in the fall. Why do they do this? (Guarantee price, provide operating money if there is a deposit, understanding of future cash flow, obtain a larger portion of the market, meet buyer demands and increase satisfaction.) Is this a forward cash contract? (yes) Would these same reasons apply to farmers?

2. Review VM-1 through VM-5 and SA-1 on characteristcs of forward contracts.

3. You have 500 head of market hogs ready to sell in four months and you feel the market is going lower. What is the current cash price? Call various packers in the area to determine what prices are available for various forward contracts. Ask them why they are willing to forward contract and what determines how much they will pay. Based on these contracts, would you forward contract? Why or why not? What factors influenced your decision. What additional information do you feel you need?

4. Review VM-6 through VM-8 on provisions of forward contracts and considerations.

5. AgriData (AgEd Network) subscribers should consider using a lesson such as Forward Pricing (FE1960).

CONCLUSION:

Forward cash contracting is a contractual agreement between two individuals. It is one of several methods of reducing price risk, although other risks such as weather, yield, fire, storage damage, etc. are still retained. The purpose of forward contracting is to help implement a marketing plan.

Why Cash Forward Contract?

There are several reasons for using cash forward contract as a part of your marketing plan. The main objective of cash forward sales usually is one of the following:

1. To capture pricing opportunities as they occur during the marketing year
2. To establish a price and reduce price risk
3. To guarantee a market outlet
4. To increase the availability of borrowed capital

Capturing Pricing Opportunities. One of the main reasons for selling through cash forward contracts is that they allow you to price grain when good price opportunities are available. Compared with a harvest sale, forward contracting often gives you better prices. It also allows you to market several times during the year and possible improve your average price.

Reducing Price Risk. With price variability comes increasing risk. This is especially true if you are highly leveraged with borrowed funds - you have a high proportion of total production costs that must be paid in cash during the marketing year. Your break-even price is higher that of a farmer with greater equity in this operation. Cash forward sales reduce exposure to risk of price decline.

Assuring a Market. If you don't have sufficient on-farm storage to handle all your crop at harvest, the cash forward contract can guarantee a market for your grain. You might also want a market guarantee if you are growing a crop new to your area. As sunflowers expanded across the upper Midwest, some seed companies offered forward contract to encourage production. Farmers were thus assured that they would have a buyer for their crops.

Capital Availability. Grain producers who are short of capital sometimes use forward contracts to improve their ability to borrow. Bankers and other lenders have, in some cases, insisted that grain be priced in advance to assure the soundness of loans. Bankers naturally are risk avoiders. Any plan that increases the certainty of your making a profit is bound to increase your standing in a lender's eyes.

Marketing for Farmers, p.72

Why Cash Forward Contracts?

To capture pricing opportunities as they occur during the marketing year.

To establish a price and reduce risk

To guarantee a market outlet

To increase the availability of borrowed capital

Unit 2
Lesson 7
VM 2

Characteristics of a Forward Contract

May be done at any time

Designed to reduce marketing uncertainty for growers as well as for handlers and producers.

Most beneficial during great market unpredictability

Bankers favor growers who contract since contracting shifts part of the risk away from the growers and improve loan repayment ability

Directly between producer and purchaser

Advantages and Disadvantages of Forward Contracting

Advantages of Forward Cash Contracts

- Eliminates some market risk and uncertainty
- Grower can contract quanities smaller than 5,00 bushels
- No margin or commission required
- Grower can get credit easier
- Need for storage facilities eliminated

Disadvantages of Forward Cash Contracts

- Grower has less market flexibility
- Grower must deliver at contract price at time of delivery
- Risk of default by grain dealer or processor

Unit 2
Lesson 7
VM 4

Comparison of Hedging and Forward Contract

	Forward Contracts	Hedging
1) Whom to contact	Local buying or marketing firm	Commodity broker
2) Price of commodity	Specific price estabilished	Price changes as basis changes
3) Funds required	No margin deposit	Initial margin deposit required and additional margin if necessary.
4) Contract terms	Each firm has different specific terms	Standardized
5) Deliver	Required	Optional
6) Flexibility of contract	Not cancelable	Hedge can be lifted anytime
7) Type of commodity	as specified	More flexibility in kind of commodity that can be hedged
8) Quantities	Varies by contract	Established
9) Knowledge required	Understanding contract specifications	Understand contract and futures trading

Marketing for Farmers, P164

Grain Contracting Alternatives

Cash forward sales contracts

Delayed or deferred pricing contracts

Deferred or delayed payment contracts

Minimum price contracts

Marketing for Farmers, P.72

Provisions of a Forward Contract

The minimum provisions that should be a part of a forward contract are:

1. **The parties to the contract**
2. **Date of the contract.**
3. **The commodity being exchanged.**
4. **The quantity involved (tons, cwt, bushels)**
5. **How commodity is to be packaged (bulk, sack, ect)**
6. **Additional specifications,(grade, weight, ect)**
7. **The price per unit.**
8. **Terms of payment (amount down, ect)**
9. **Point and method of delivery.**
10. **Time of final delivery.**

Understanding Forward Cash Contracts

Read the contract before you sign it

Try to evaluate what circumstances
might arise that could cause trouble

Ask for written clarification of
any language you don't
understand.

Ask that particular terms be
changed to fit your situation

Marketing for Farmers, P.72

UNIT 3: Price and Grades for Livestock, Livestock Products, Grains, and Forages

LESSON 1: Understanding price trends and price cycles

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Identify seasonal patterns in grain and meat animal prices.
2. Explain the factors affecting seasonal price variation.
3. Explain the price analysis charts and select one enterprise to market using the charts.
4. Select an enterprise and choose a schedule for obtaining inputs and a time schedule of marketing the product.

MATERIALS/REFERENCES NEEDED:

1. Seasonal Price Patterns of Agricultural Products, Cooperative Extension Service, ISU, PM1104.
2. Use of Seasonal Patterns for Cattle Price Forecasting, Cooperative Extension Service, ISU, M-1228, July 1985.
3. Use of Seasonal Patterns for Hog Price Forecasting, Cooperative Extension Service, ISU, M-1219, August 1985.
4. Use of Seasonal Patterns for Soybean Price Forecasting, Cooperative Extension Service, ISU, M-1209, November 1985.
5. Use of Seasonal Patterns for Corn Price Forecasting, Cooperative Extension Service, ISU, M-1203, November 1985.

VISUAL MASTERS:

VM-1 Slaughter Hog Seasonal Price Pattern, 1976-85
VM-2 Slaughter Steers Seasonal Price Pattern, 1976-85
VM-3 Feeder Steers Seasonal Price Pattern, 1976-85
VM-4 Slaughter Lambs Seasonal Price Pattern, 1976-85
VM-5 Corn Seasonal Price Pattern, 1976-85
VM-6 Soybean Seasonal Price Pattern, 1976-85

INTEREST APPROACH:

How much does a ticket to the nearest drive-in theater cost during July? How much in January? How could the owner of the drive-in theater attract people to the theater in January? How could the owner improve his/her chance of making more profit. Answer: Charge enough during the summer to pay for the operation and make an acceptable profit for the entire year. Producers have to also consider strategies to market their commodities based on seasonal trends.

QUESTIONS:

1. **Have students brainstorm to decide which agricultural commodities have seasonal price patterns?**
   Answer: Grains, livestock, eggs, and milk.

2. **How can seasonal price indexes be used to aid the farmers in producing and marketing their products?**
   Answer: Helps determine breeding dates, helps determine when to contract inputs, helps determine profitability of storing grain, and helps determine when to market grain.

3. **What factors affect the price index?**
   Answer: A) Inflation, B) Seasonal changes in production, C) Changes in technology, D) Adverse weather conditions.

4. **Which two parts of the price analysis are important to understand in order to make the charts useful.**
   Answer: A) Average price pattern- usually based at 100 B) Monthly variance possibility, *The larger the variability index the less reliable is the monthly price index.

5. **Which months are the seasonal high for slaughter hogs, and why might that occur?** Use VM-1.
   Answer: July and August, (December and January farrowings are less and cost are higher to produce.

6. **Using the charts, which months are high and low for feeder pigs and why?**
   Answer: High month April- supply is low and demand is high. Low month January and July - larger slaughter and downward pressure on slaughter market.

7. **What months are slaughter steers the highest and lowest?** Use VM-2.
   Answer: Highs -July and August; Lows - February.

8. **What months are the highest and lowest for feeder cattle?** Use VM-3.
   Answer: Highs - October; Lows - January.

9. **What months are the highest and lowest for slaughter lambs?** Use VM-4.
   Answer: Highs - May; Lows - September.

10. **What months are the highest and lowest for corn?** Use VM-5.
    Answer: Highs - August; Lows - November.

11. **What months are the highest and lowest for soybeans?** Use VM-6.
    Answer: Highs - August; Lows- February.

12. **What months are the highest and lowest for wheat?**
    Answer: Highs - September and October; Lows - June.

13. **What months are the highest and lowest for eggs?**
    Answer: Highs - December; Lows - June.

STUDENT ACTIVITIES:

1. Read publication Seasonable Price Patterns of Agricultural Products (PM1104) to familiarize themselves with price cycles.

2. Divide into groups of two to four. Assign groups different commodities and have them set a plan for marketing that item and explain their reasons.

3. Construct a spreadsheet using their SOE projects and the cycle pamphlets to select the most profitable time to market their commodity.

4. Have students keep records on different commodities for a nine week period and compare price trends. Use the newspaper, Dataline, AgriData, or other source for the information.

CONCLUSION:

Price variation occurs in all commodities due to supply and demand. With the proper information and analysis a producer can time his/her marketing strategies to achieve more profitable prices for the commodity produced.

KNOWLEDGE ANALYZER

Name:

TRUE-FALSE (circle T or F):

T F 1. Low prices for slaughter hogs occur during July.

T F 2. There seems to be no seasonal trend for corn.

T F 3. Beans are usually priced the highest in October.

T F 4. Feeder cattle prices are the highest in October.

T F 5. Lamb prices are the highest in the month of May.

SHORT ANSWER (answer in the space provided):

6. In what months are slaughter hogs the highest and explain why this occurs.

7. Explain how understanding seasonal price patterns help in producing and marketing a commodity.

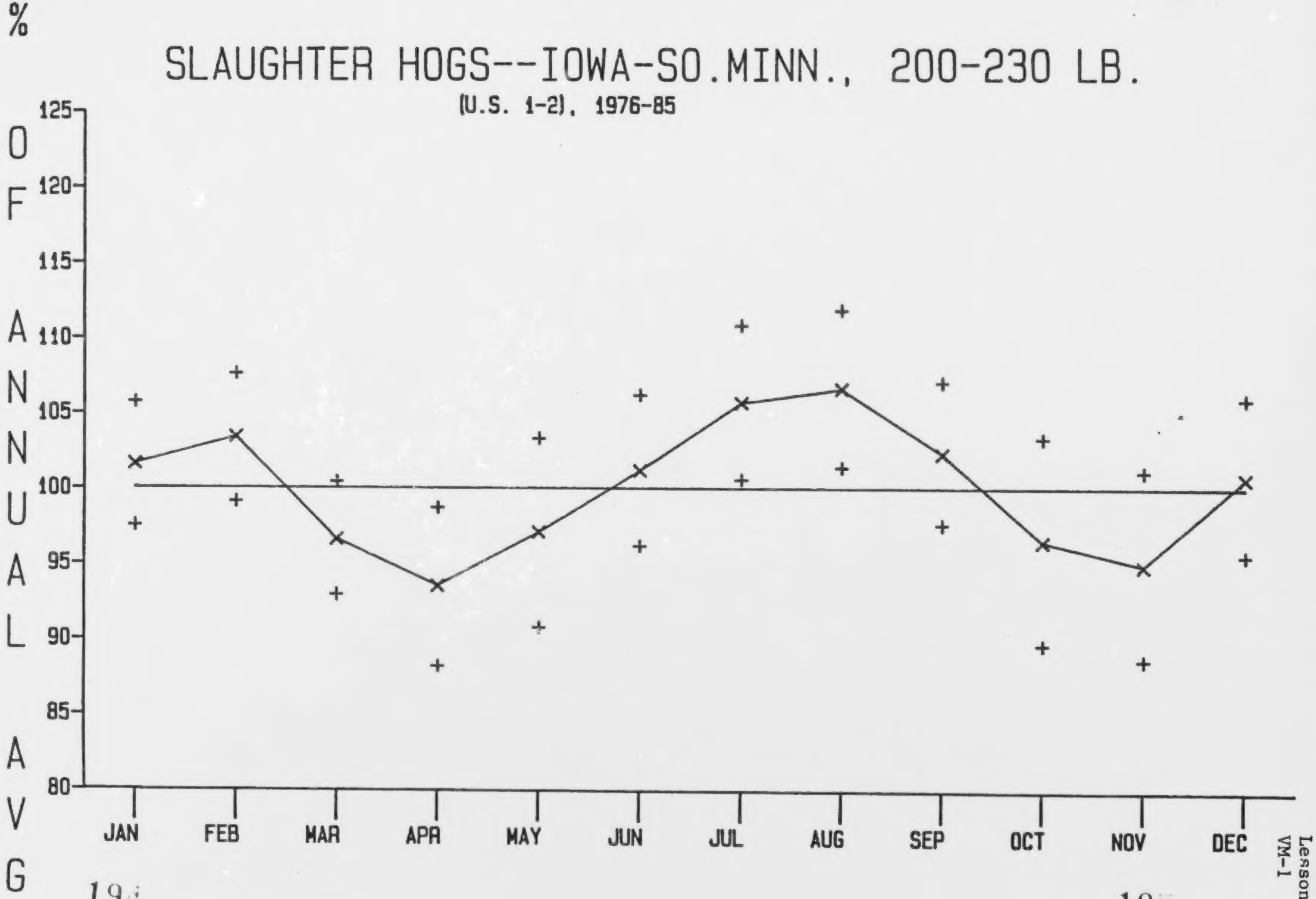
8. If you were a lamb producer when would you try to market your lambs and explain why.

9. If you were a corn producer when would you try to sell your crop and explain why.

10. If you were raising soybeans when would you try to sell your beans and why?

KNOWLEDGE ANALYZER
KEY

1. F
2. F
3. F
4. T
5. T
6. June-Aug. Winter farrowing is less and demand is higher
7. A person can take advantage of price trends to market and buy inputs
8. Try to lamb early winter to take advantage of summer markets
9. Pre-sell the crop during the growing season or hold over until next summer, unless government programs and storage costs are attractive.
10. Try to sell during preharvest lows or hold until next summer.



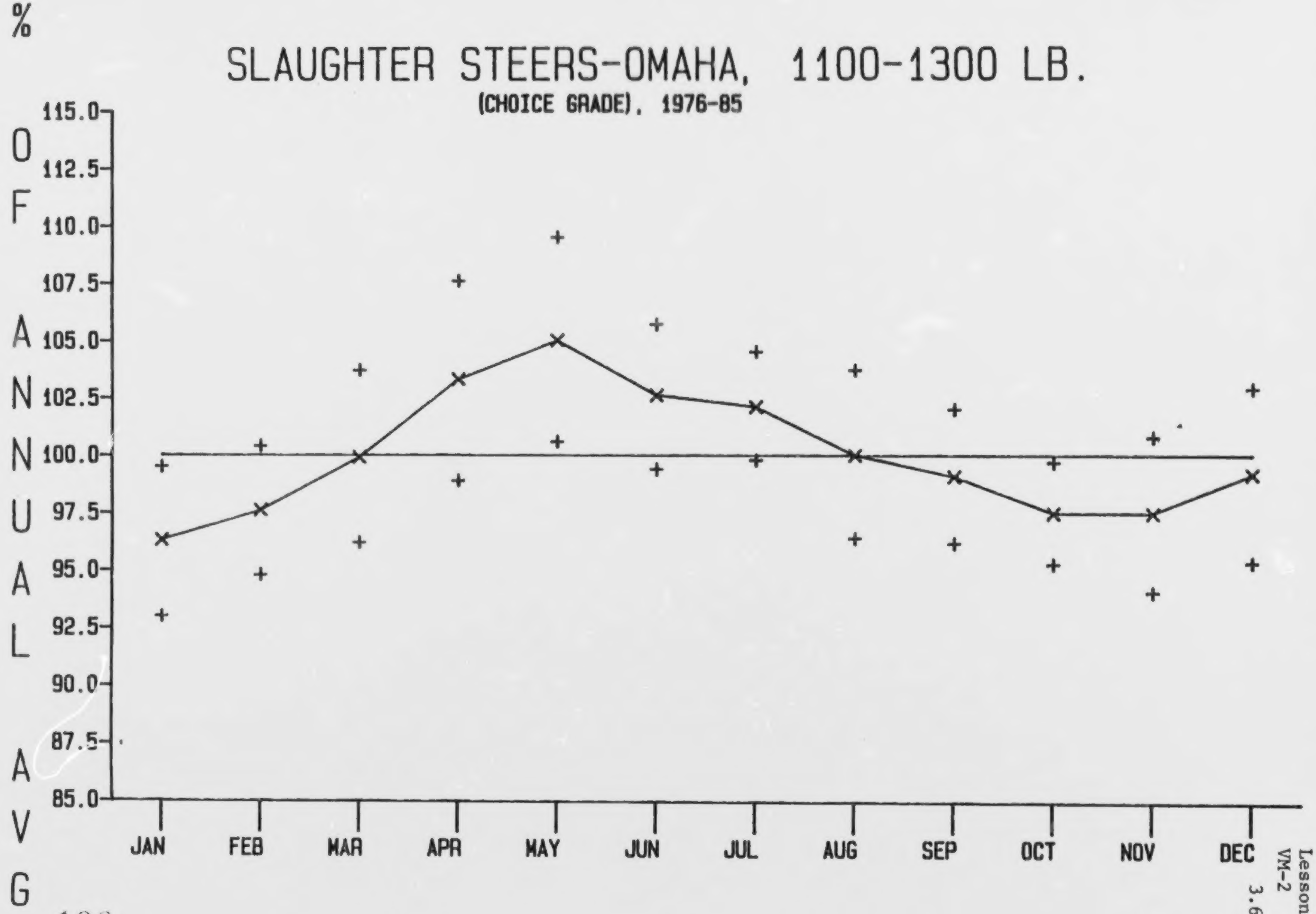
SLAUGHTER HOGS--IOWA-SO.MINN., 200-230 LB.

(U.S. 1-2), 1976-85

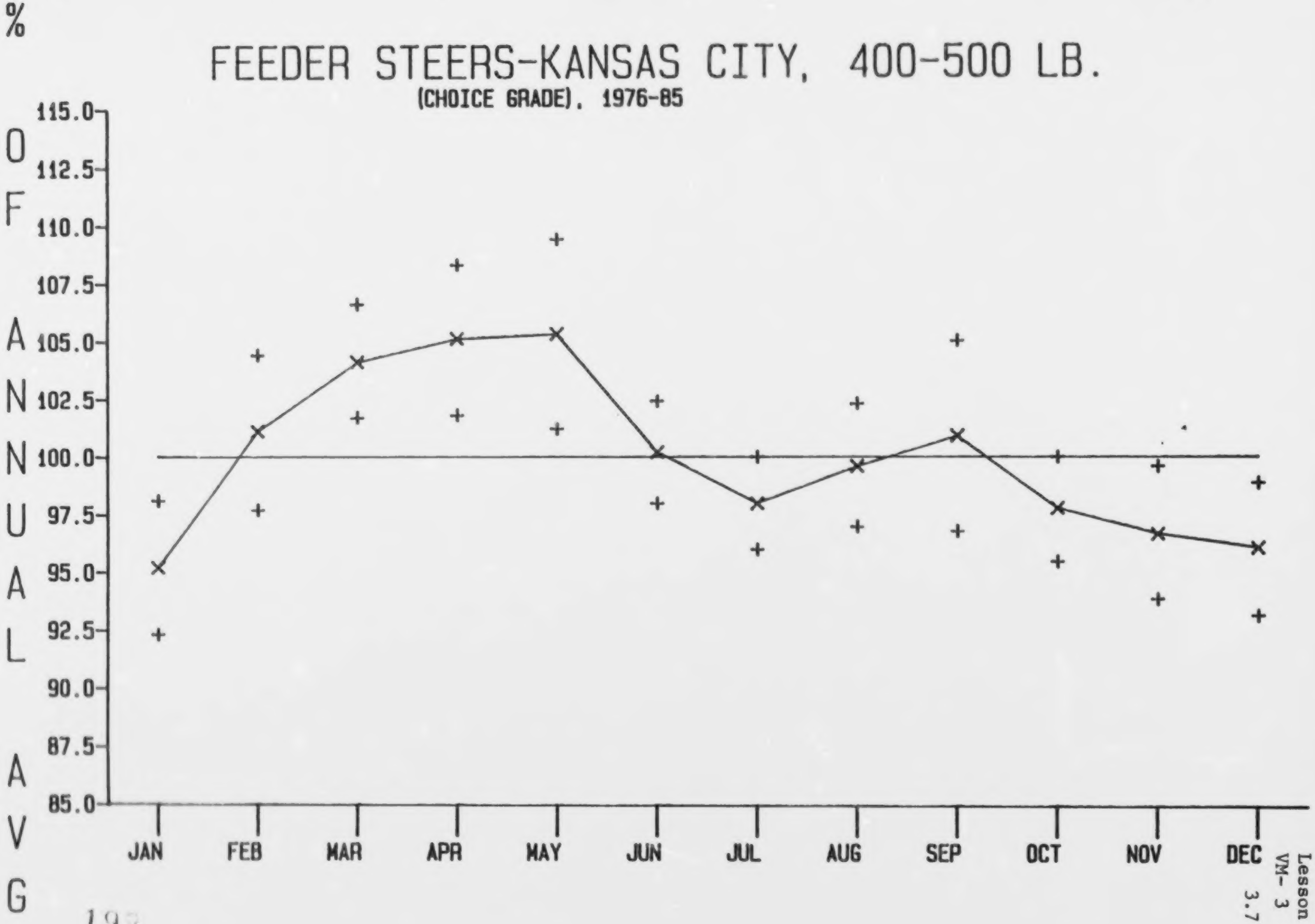
Unit 3
Lesson 1
VM-1 3.5

SLAUGHTER STEERS-OMAHA, 1100-1300 LB.

(CHOICE GRADE), 1976-85



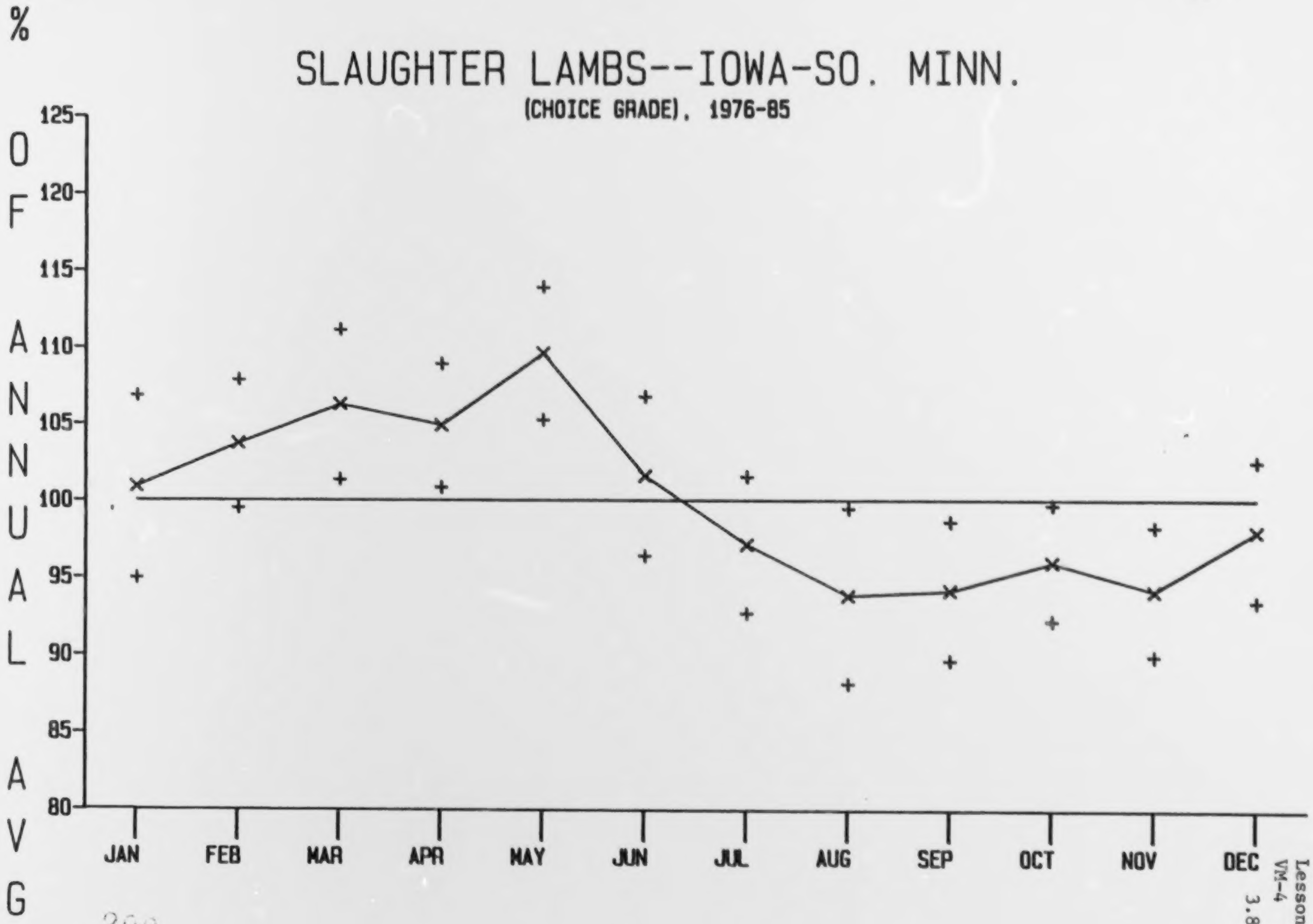
Unit 3
Lesson 1
VM-2
3.6



FEEDER STEERS-KANSAS CITY, 400-500 LB.

(CHOICE GRADE), 1976-85

Unit 3
Lesson 1
VM- 3
3.7



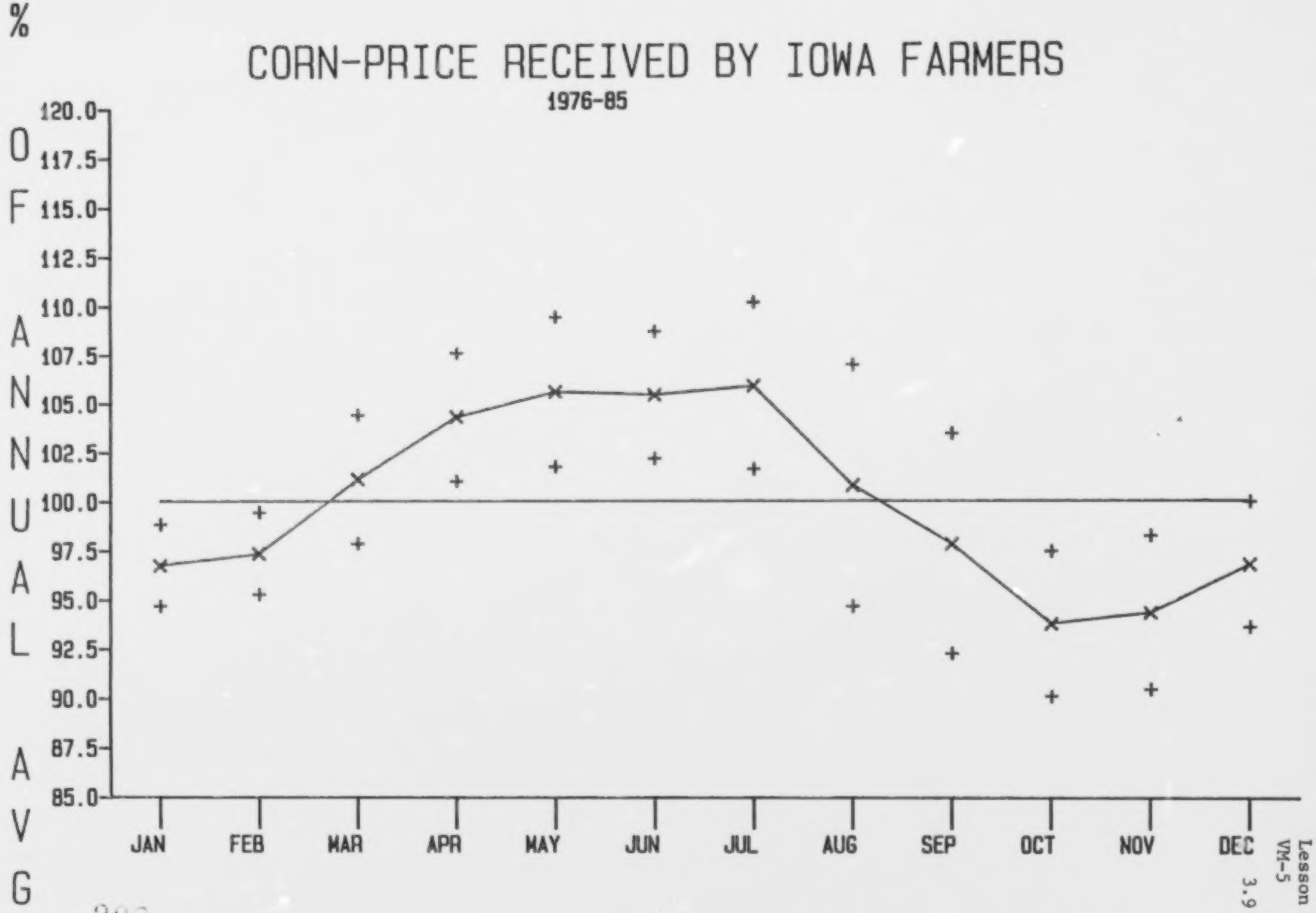
SLAUGHTER LAMBS--IOWA-SO. MINN.

(CHOICE GRADE), 1976-85

Unit 3
Lesson 1
VM-4
3.8

CORN-PRICE RECEIVED BY IOWA FARMERS

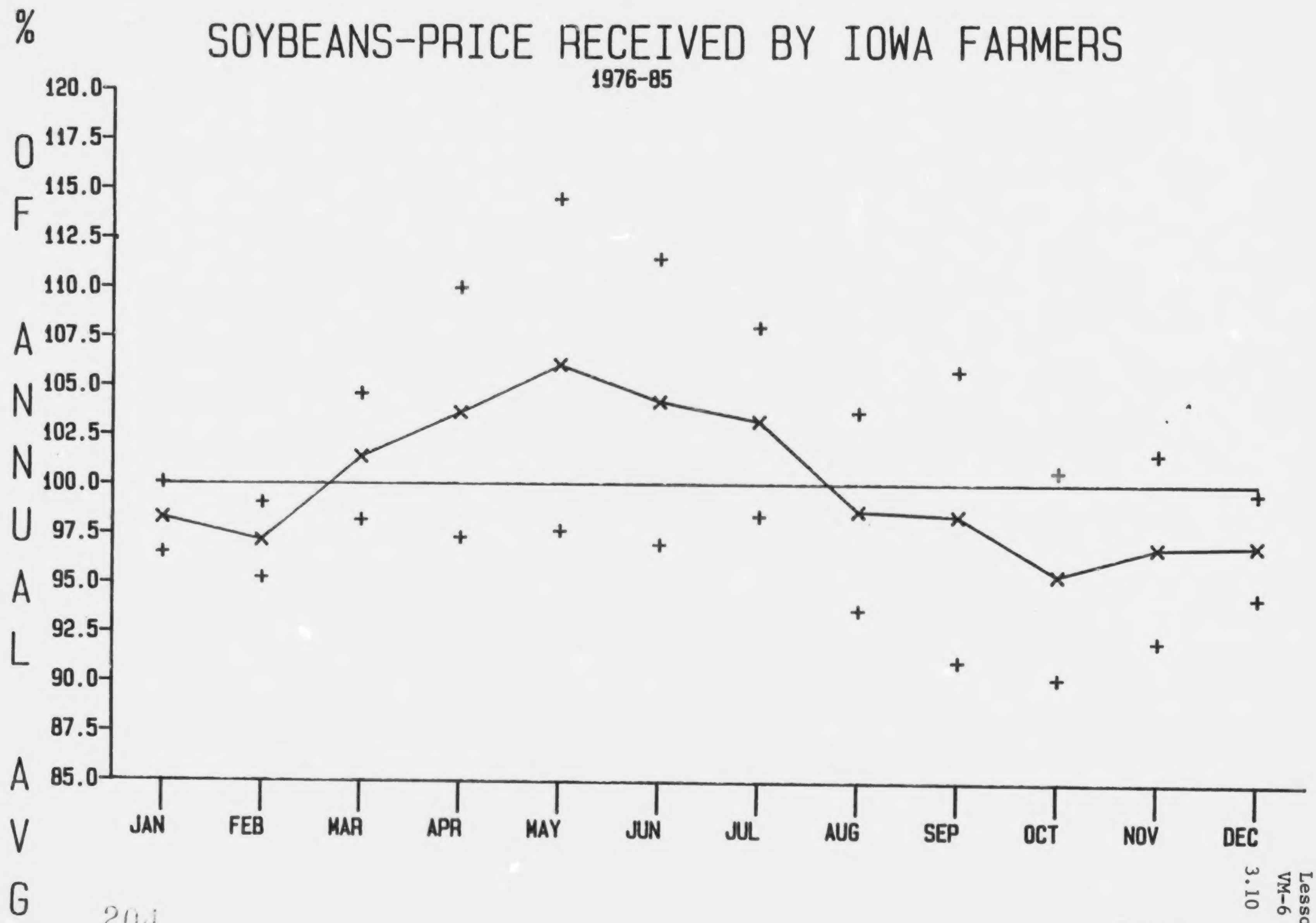
1976-85



Unit 3
Lesson 1
VM-5
3.9

SOYBEANS-PRICE RECEIVED BY IOWA FARMERS

1976-85



Unit 3
Lesson 1
VM-6
3.10

UNIT 3: Price and Grades for Livestock, Livestock Products, Grains, and Forages

LESSON 2: Slaughter Livestock

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Identify grades of slaughter animals.
2. Explain the factors affecting grade and yield of livestock.
3. Explain the factors influencing when and where to sell livestock.
4. Select an enterprise and choose several marketing alternatives.

MATERIALS/REFERENCES NEEDED:

1. Student Reference for Agricultural Marketing, IML, University of Columbia, Jefferson City, Missouri.
2. Livestock Hedger's Workbook, Chicago Merchantile Exchange, Chicago, Il.
3. Choosing a Slaughter Hog Market, Cooperative Extension Service, ISU, AS-436, January 1977.
4. Producing and Marketing Hogs Under Contract, Cooperative Extension Service, ISU, AS-430, January 1977.
5. Feeder Cattle and Beef Cattle Futures, Chicago Mercantile Exchange, Chicago, Il.

VISUAL MASTERS:

VM-1 Beef Cattle Grades
VM-2 Market Swine Grades
VM-3 Market Lamb Grades
VM-4 Factors That Affect Meat Price
VM-5 Market Options for Marketing Beef
VM-6 Market Options for Marketing Swine
VM-7 Market Options for Marketing Lambs

INTEREST APPROACH:

Secure posters from the various meat councils and have students determine which animal would be worth more. Have students discuss why they feel that why about their answers.

QUESTIONS:

1. **What are the common grades and yields of the following species, Beef, Swine, Lamb?** Use VM-1,2,3.
   Answer: Beef Grades: Prime, Choice, Select, Standard, Commercial, Utility, Cutter. Beef Yield Grades: 1,2,3,4,5
   Swine Yield Grades: U.S. No.'s 1,2,3,4,
   Lamb Grades: Prime, Choice, Good, Utility. Lamb Yield Grades:1,2,3,4,5

2. **What are the major factors in determining these grades?** Use VM-4.
   Answer: Fat cover, muscling, and dressing percent.

3. **The price of beef is based on what three factors?**
   Answer: 1) Yield grade 2) Quality grade 3) Dressing percent

4. **In order to determine the local live weight price of a beef animal how would you calculate the price?**
   Answer: Carcass price X Dressing percent = Live wt. price per cwt.

5. **As a producer what factors determine when and where to sell?**
   Answer: Price bid, length of trucking, shrinkage, trucking costs, packer needs, uniformity of group sold, and yardage costs.

6. **What type of marketing options are available to a beef producer or a swine producer?** Use VM-5 and VM-6.
   Answer: Sell to local packer (live wt. or carcass wt.)
   Sell at auctions or terminal markets
   Pricing alternatives: cash, futures markets,
   cash contract, or options

7. **What factors affect the pricing of market hogs?**
   Answer: Grade of the animal, dressing percent, percent of carcass that comprises the four primal cuts, and weight of the animal.

8. **What is the approximate dressing percent of hogs?**
   Answer: 70%

9. **Of that carcass weight, what percent usually makes up the four primal cuts?**
   Answer: 50%

10. **In order to better market your hogs what should a producer be able to do?**
    Answer: Be aware of price trends, present competitive price level, market supply, quality of his hogs, needs of the buyer, and pricing options (live weight; grade and yield)

11. **A challenge for sheep producers is to determine the yield of their lambs, what yield grades are there for lambs?**
    Answer: Yields 1-5 (1=most desirable, 5=least desirable)

12. **Yield grades, place greater emphasis on high-cutability lambs. As a result of this which areas of the lamb would determine the degree of fat an animal possessed?**
    Answer: Ribs, Edge of loin, Hip bones, Dock, and the Rear flank.

13. **The lambs also have a quality grade, what are those grades?**
    Answer: Prime, choice, good, and standard

14. **Marketing and pricing alternatives are limited in the sheep industry, what types are available to the producer?** Use VM-7.
    Answer: Pricing alternatives: live weight selling and carcass weight selling.
    Marketing alternatives: direct, contract, tele-auction, auction barns, and packer buyers.

STUDENT ACTIVITIES:

1. Have students visit a locker to observe the butchering process and identify where the most valuable cuts are located and also where fat deposits occur.

2. Have students calculate break even costs for different species using current prices that students obtain through papers, local packers, or elevators.

3. Have students complete a hedging problem, obtaining future markets from area commodity brokers.

4. Invite area producers to class and discuss their marketing strategies.

5. AgriData (AgEd Network) subscribers may want to use one or more of the following lessons: Fed Cattle (HS386), Markets for Hogs (HS364), and Markets for Sheep and Lambs (HS410).

CONCLUSION:

Livestock producers should feed their animals to obtain the most profitable price determined by the animal's grade and yield. The producer should also analyze the various marketing alternatives in order to receive the maximum price for his/her commodity.

KNOWLEDGE ANALYZER

NAME:

TRUE-FALSE (Circle T or F):

T F 1. Prime is considered the highest grade in swine.
T F 2. The lowest grade for lambs is good.
T F 3. Beef cattle have two grading systems.
T F 4. Yield refers to carcass weight in relationship to live weight.
T F 5. Swine have two grading systems that are used.

PROBLEM SOLVING: CALCULATE THE DRESSING PERCENT OF THE FOLLOWING ANIMALS:

6. You sold a market hog that had a carcass weight of 160 pounds and a live weight of 220 pounds.

7. You sold a market lamb that had a carcass weight of 50 pounds and a live weight of 98 pounds.

8. You sold a market steer that had a carcass weight of 700 pounds and a live weight of 1100 pounds.

SHORT ANSWER (Answer in the space provided):

9.-11. Give three locations where one might market livestock.

A.
B.
C.

12.-15. List three items that determine the yield grade of an animal.

A.
B.
C.

KNOWLEDGE ANALYZER
KEY

1. F
2. F
3. T
4. T
5. F
6. 72.72%
7. 51.02%
8. 63.64%

9.-11. AUCTIONS, FUTURE DELIVERIES, PACKING PLANTS
12.-15. FAT CONTENT, LIVE WT., CARCASS WT.

Beef Cattle Grades

Quality Grades

1. Prime
2. Choice
3. Select
4. Standard
5. Utility
6. Cutter
7. Canner

Yield Grades

1

2

3

4

Market Swine Grades

1. U.S. NUMBER 1

2. U.S. NUMBER 2

3. U.S. NUMBER 3

4. U.S. NUMBER 4

Market Lamb Grades

1. Prime
2. Choice
3. Good
4. Standard

Factors That Affect Meat Price

1. Muscling
2. Fat Content
3. Dressing Percent
4. Consumer Demand

MARKET OPTIONS FOR MARKETING BEEF

1. Direct to Packer
2. Auction Barns
3. Packer Buyers
   (Terminal Market)
4. Tele-auction
5. Futures Market
6. Contract to order buyers

MARKET OPTIONS FOR MARKETING SWINE

1. Direct to Packer
2. Auction Barns
3. Packer Buyers
   (Terminal Markets)
4. Tele-auction
5. Futures Market
6. Contract to order buyers

MARKET OPTIONS FOR MARKETING LAMB

1. Direct to Packer

2. Auction Barns

3. Packer Buyers
   (Terminal Market)

4. Tele-auction

6. Contract to order
   buyers

UNIT 3: Price and Grades for Livestock, Livestock Products, Grains, and Forages

LESSON 3: Feeder Animals.

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Identify grades of feeder animals.
2. Explain the factors affecting grades of livestock.
3. Explain the factors of when and where to sell livestock.
4. Select an enterprise and choose several marketing alternatives.

MATERIALS/REFERENCES NEEDED:

1. Student Reference for Agricultural Marketing, IML, University of Columbia, Jefferson City, Missouri.
2. Livestock Hedger's Workbook, Chicago Merchantile Exchange, Chicago, Il.
3. (Extension Publication Swine Marketing Techniques)
4. U.S. Feeder Cattle Grades, Cooperative Extension Service, ISU, Ames, IA. Pm-927, November. 1979.
5. Feeder Cattle and Beef Cattle Futures, Chicago Mercantile Exchange, Chicago, Il.

VISUAL MASTERS:

VM-1 Feeder Cattle Grades
VM-2 Feeder Pig Grades
VM-3 Feeder Cattle Selling Options
VM-4 Feeder Pig Selling Options
VM-5 Feeder Lamb Selling Options

INTEREST APPROACH:

Bring pictures of four types of feeder cattle and have students decide which animal they would buy and define under what situations it would apply.

QUESTIONS:

1. **What are the common grades of the following species, Beef, Swine?** Use VM-1 and 2.
   Answer: Beef Feeder Grades: Large Frame No. 1-3
   (10 Grades) Medium Frame No. 1-3
   Small Frame No. 1-3
   Inferior (unthrifty animals)

   Feeder Pig Grades: 1,2,3,4, and utility

2. **What are the major factors in determining these grades?**
   Answer: Frame size, muscle thickness, and thriftiness of the animal.

3. **How does frame size affect the type of animal to be sold?**
   Answer: Frame size is highly correlated with the weight at which an animal will produce a carcass of a given degree of fatness.

4. **Why is the amount of muscle thickness an animal possesses important when marketing feeder animals?**
   Answer: Muscle thickness is related to the muscle-to-bone ratio and a given degree of fatness-to-carcass yield grade (cutability).

5. **As a producer what factors determine when and where to sell?**
   Answer: Length of trucking, shrinkage, trucking costs, feeder demands, uniformity of group sold, and yardage costs.

6. **What type of marketing and pricing options are available to a feeder cattle producer?** Use VM-3.
   Answer: Marketing options: Local auctions, terminals, and selling direct from feeder to producer.
   Pricing options: Contract, options, futures market

7. **In order to receive a higher price for your feeder cattle what practices should you include in your management program?**
   Answer:
   1. Avoid excess shrink on cattle.
   2. Produce a quality calf of the type in most demand.
   3. Perform necessary practices- castrate, dehorn, worm, wean, vaccinate, and start on feed (if profitable).
   4. Sell at most profitable weight for your operation.
   5. Sell at the time of year when the price is highest for the weight of calf produced.

8. **What market alternatives are there for feeder pig producers?** Use VM-4.
Answer: Sell directly to finisher, through regular auctions, through specialized feeder pig markets, tele-auctions, and on a formula pricing method.

9. **As with feeder cattle, a feeder pig producer should perform management practices that will yield him a higher return for their commodity. What are some practices that should be performed?**
Answer: Produce a quality pig that is thrifty, castrated, docked, sprayed, wormed and sold in uniform lots. The planning of farrowings and marketing to obtain seasonal higher prices. Selling at the most profitable weight.

10. **Although there is no future markets for feeder lambs, what other options are there for sheep producers?** Use VM-5.
Answer: Public auctions, terminal markets, order buyers, feed lot buyers, and tele-auctions.

11. **By being involved with raising feeder animals, what are some of the options a feeder producer has over a person who finishes out the animals?**
Answer: Producers have the option to feed out the animals(if facilities and feed supply permit), they also have a range of weights in which to chose a market.

STUDENT ACTIVITIES:

1. Survey area farmers that produce feeder cattle, feeder pigs, and feeder lambs to compare marketing strategies of area producers.

2. Calculate break even costs for different species of feeder animals using current prices that students obtain through papers, local packers, or elevators.

3. Construct a spreadsheet using input costs to determine the selling price of a feeder animal.

4. Contact a teleauction and discuss their marketing strategies and terms of contracts that a producer and feeder must meet.

5. AgriData (AgEd Network) subscribers may want to use one or more of the following lessons: Markets for Feeder Cattle (HS399), Markets for Feeder Pigs (HS377), and Markets for Sheep and Lambs (HS410).

CONCLUSION:

The student should realize the factors of size, quality, thriftiness, and muscling affect the price they receive for their animals. Marketing the animals can be done in several ways and the producer should research the different alternatives before buying or selling.

KNOWLEDGE ANALYZER

Name:

SHORT ANSWER (Answer in the space provided):

1-5. List five ways a producer can market their livestock.

A.

B.

C.

D.

E.

6. If you were wanting feeder cattle that would finish at 1250 pounds what grade of feeder cattle would you buy and why?

7. If you were after feeder pigs that would market at 240 pounds and grade number two, what grade of feeder pigs would you purchase and why?

8. What type of market is available to feeder cattle and not available to feeder pigs and lambs?

9. When considering marketing feeder animals what should you consider in selecting the method used in selling?

10. What are the advantages of raising feeder animals?

KNOWLEDGE ANALYZER
KEY

1-5. Auctions, futures, tele-auctions, private treaty, forward pricing
6. Large Frame - They will develop into a market animal of the desired weight.
7. You should purchase number one or twos: They are most likely to meet the desired weight and grade.
8. Futures and Options
9. Costs of commissions, distance to auction, and availability of the auctions.
10. It gives a person the option to raise the animal to market weight if feeder prices are low or to market them as feeders.

VM-1

Feeder Cattle Grades
10 Grades

Determined by frame size and conditioning of the animal

Frame Size	Conditioning
Large	1. (Lean) 2. (Moderate) 3. (Fat)
Medium	1. (Lean) 2. (Moderate) 3. (Fat)
Small	1. (Lean) 2. (Moderate) 3. (Fat)
Utility	

FEEDER PIG GRADES

1. U.S. NUMBER 1

2. U.S. NUMBER 2

3. U.S. NUMBER 3

4. U.S. NUMBER 4

5. UTILITY

SELLING OPTIONS FOR FEEDER CATTLE

1. Local Auctions

2. Terminal Markets

3. Direct Selling To Producer

4. Futures Contracts

5. Options

6. Contracts

SELLING OPTIONS FOR FEEDER PIGS

1. Public Auctions

2. Direct To Finisher

3. Specialized Markets

4. Tele-auctions

5. Formula Pricing Method

FEEDER LAMB SELLING OPTIONS

1. Public Auctions

2. Terminal Markets

3. Order Buyers

4. Feedlot Buyers

5. Tele-auctions

UNIT 3: Price and Grades for Livestock, Livestock Products, Grains, and Forages

LESSON 4: Milk and Dairy Products

OBJECTIVES:

Upon completion of this lesson the students will be able to:

1. List the different classes of milk and their products.
2. Calculate the blend price used to pay producers.
3. Describe how milk orders are determined and their purpose.
4. Identify other factors that affect the milk producer's price.

MATERIALS/REFERENCES NEEDED:

1. Student Reference in Agriculture Marketing, Instructional Materials Laboratory, Columbia, Missouri, pg. 63-68
2. Milk Flavor Defects, Cooperative Extension Service, Iowa State University, Guide No. FT-1000
3. Blend Price - Milk, HO-1.
4. Growth of Federal Milk Order Regulation in the U.S. 1947-82, HO-2.
5. Minimum Federal Order Class I Differentials Before and After the Food and Security Act of 1985, HO-3.
6. Fluid Utilization Rates by Marketing Order by Region, 1986, HO-4.

VISUAL MASTERS:

VM-1 Marketing Milk

INTEREST APPROACH:

1. Bring a pound of cheddar cheese to class. Ask how much milk it takes to make a pound of cheddar cheese. Answer: 9.1 pounds. If milk is $12.00 per 100 pounds, then why doesn't cheddar cheese cost $1.09 per pound (9.1 x $0.12 = $1.09). Note the other costs involved in making the cheese. These costs include: transportation, labor, facilities, interest on capital and advertising.

2. Ask what area of the United States produce the greatest quantity of dairy products. Answer: Minnesota and Wisconsin. Why? The biggest reason is that the land and climate are best suited for dairy cows.

   Ask what influence that region could have on the price of dairy products? Answer: Since they are a large producer and control a larger share of the market than any other region their production affects other dairy product markets in the United States.

   Ask where most of the dairy production in Iowa is located. Answer: northeast Iowa. Why? Again, because the land and climate are best suited for it when compared to the rest of the state.

QUESTIONS:

1. **What categories are used in milk marketing?** Use VM-1.
   Answer: Fluid (Grade A):
   - a. Class I - fluid milk products
   - b. Class II - soft products
   - c. Class III - hard products

   Manufacturing (Grade B): Hard and Soft

2. **Why is it important to have "classes" for fluid milk?**
   Answer:
   1. Assures adequate supplies.
   2. Prevents surplus of milk for fluid products.
   3. Any extra milk goes into "storable" products
   4. Raises incomes for producers.

3. **How is the price for manufacturing milk determined?**
   Answer:
   1. Based on supply/demand
   2. Government support prices help to set a floor price.

4. **What is the Minnesota-Wisconsin Price Series?**
   Answer:
   1. Monthly average of Grade B prices paid in Minnesota and Wisconsin.
   2. Used as an indication of the value of manufacturing milk since over 50% of the U.S. manufacturing milk is produced in these two states.

5. **How is the Grade A milk price determined?** Use HO-4 to determine the fluid utilization for Iowa. Use HO-3 to determine the Class I differential since 1985.

   Answer: In Federal Milk Marketing Order areas:
   1. The Class I price = a differential added to the M-W price.
   2. Class II price = a differential added to the M-W price.
   3. Class III price is the M-W price.
   4. Producers receive an average or blend of the above prices for the percentage of milk going into each class.

6. **What is blend price?** Use HO-1.

   Answer: The average price of milk for all classes in a particular order for a certain pay period.

7. **What differentials are applied to the blend price?**

   Answer:
   1. Butterfat - based on 3.5% average. Differential awarded on .1% increments.
   2. Location differential - calculated on location in relation to central location to Federal Milk Order area.
   3. Seasonal

STUDENT ACTIVITIES:

1. Using ISU Extension Guide FT-1000, Milk Flavor Defects, design a contest to evaluate different milk defects. Page 7 of the guide gives good directions for obtaining samples of specific flavor defects. This lesson and student activity could be a good way to introduce material related to the Dairy Food Products Contest. Cheese identification could be another student activity related to this lesson.

2. Invite the nearest co-op or milk plant representative to visit class and discuss marketing.

3. Obtain video from the Dairy Food Products Council in Ankeny entitled "Cheeses of the New World." This video will give some insight as to how cheese is produced.

4. AgriData (AgEd Network) subscribers will find several lessons that can be used, among them are: Markets for Milk (HS424), Understanding Milk Supply (HS425), Understanding Milk Demand (HS426), and Sources of Milk Market Facts (HS430).

CONCLUSION:

1. Each of the three classes of milk receives a separate price per cwt.

2. All farmers receive the same price based on the total milk in the area going to each class. This average price is called the "blend price."

3. Milk marketing orders are established by vote of the producers in an area through U.S.D.A. held referendums. The order requires all milk handlers to pay a price for the milk based on its use and the M-W price.

Knowledge Analyzer
DAIRY QUIZ

Name:

T F 1. Milk is marketed in two categories: manufacturing and fluid.

2. Examples of "hard" manufactured milk products are:
   - A. Butter
   - B. Dried Milk
   - C. Cottage Cheese
   - D. A and B above
   - E. A, B, and C above

3. Fluid milk is marketed in three classes:
   - A. Grade A
   - B. Grade B
   - C. Grade C
   - D. All of the above
   - E. None of the above

T F 4. Class II milk is used for soft manufactured products.

T F 5. Surplus milk for bottling use is normally carried over about a week.

6. A local processing plant is limited on price it can pay for manufacturing milk by:
   - A. Price of their product
   - B. Yield obtained
   - C. Cost of handling and manufacturing
   - D. All of the above
   - E. None of the above

T F 7. Over half of the manufacturing milk in the U.S. is produced in Minnesota and Wisconsin.

T F 8. The Minnesota-Wisconsin Price is determined by supply:demand?

T F 9. A government support price for Minnesota-Wisconsin milk will affect the fluid-blend price.

T F 10. A government support price above the "normal" Minnesota-Wisconsin price will cause a surplus of dairy products.

T F 11. The U.S.D.A. sets the M-W Price through Milk Marketing Orders.

T F 12. Class I milk price is set in relation to the M-W Price.

13. Class II milk price is:
    A. About $.10/cwt over M-W price
    B. About $.10/cwt under Class I
    C. About $.10/cwt under Class III
    D. About $1.70/cwt over Class III
    E. None of the above

T F 14. All producers in a market shed (marketing order area) receive the same blend price.

15. The following is a hypothetical usage chart for a marketing order for 3.5% milk with $.10 butterfat differential.

	Milk (cwt)	Price per cwt
Class I	300,000	10.00
Class II	200,000	8.40
Class III	100,000	8.30

The blend price is:
    A. $8.90/cwt
    B. $9.18/cwt
    C. $9.41/cwt
    D. $8.46/cwt
    E. None of the above

16. A producer in the above example with 3.8% milk would receive for milk:
    A. $9.71/cwt
    B. $9.20/cwt
    C. $9.11/cwt
    D. $9.48/cwt
    E. None of the above

17. A producer in the above example with 3.3 % milk would receive for milk:
    A. $9.14/cwt
    B. $8.75/cwt
    C. $9.38/cwt
    D. $8.98/cwt
    E. None of the above

18. Determine the blend price with the following information: 3.5% milk with $.10 butterfat differential.

	Milk (cwt)	Price per cwt
Class I	400,000	10.00
Class II	100,000	8.40
Class III	100,000	8.30

The blend price is:
A. $9.86/cwt
B. $9.45/cwt
C. $8.95/cwt
D. $9.27/cwt
E. None of the above

19. Determine the blend price with the following information: 3.5% milk with $.10 butterfat differential.

	Milk (cwt)	Price per cwt
Class I	300,000	10.00
Class II	100,000	8.40
Class III	200,000	8.30

The blend price is:
A. $9.17/cwt
B. $9.07/cwt
C. $8.95/cwt
D. $9.45/cwt
E. None of the above

20. Determine the blend price using the information in problem 19 with a $.10/cwt location adjustment.
A. $9.22/cwt
B. $8.67/cwt
C. $9.07/cwt
D. $8.93/cwt
E. None of the above

21. It takes __________ pounds (one quart weighs 2.15 pounds) of milk to make one pound of butter.
A. 21.2
B. 15.6
C. 9.5
D. 3.7

22. The dairy industry is _______ largest single segment of American agriculture.
A. 10th
B. 2nd
C. 5th
D. 12th

23. U.S. dairy cows produced ________ billion pounds of milk in 1983.
    A. 100.6
    B. 123.4
    C. 188.7
    D. 138.9

24. If all the milk produced on the U.S. dairy farms in 1977 were placed in gallon cartons and lined up end to end, they would form a band around the world ______ times at the equator.
    A. 87
    B. 101
    C. 56
    D. 156

25. Dairy product shipments totaling about $24 billion rank the industry ______ among all manufacturing industries.
    A. 5th
    B. 8th
    C. 11th
    D. 3rd

26. How much of the U.S. milk production is made into cheese?
    A. 1/5
    B. 1/2
    C. 1/3
    D. 2/5

27. What percent milk fat is contained in butter?
    A. 60%
    B. 80%
    C. 50%
    D. 99.45%

T F 28. One quart of milk weighs 2.15 pounds.

29. One hundred pounds of milk will make _________ pounds of cottage cheese.
    A. 5-8
    B. 15-18
    C. 48-51

30. To make one pound of cheddar cheese requires ________ of milk.
    A. 1 quart
    B. 5 quarts
    C. 12 quarts
    D. 8 quarts

31. Cheese yield pricing for milk uses:
    A. Fat and protein content of milk
    B. Fat content only
    C. Protein content of milk only

T F 32. It takes 25 pounds of whole milk to make one gallon of ice cream.

33. The government does not evaluate butter on its ________.
    A. Taste
    B. Weight
    C. Smell

34. How many pounds of instant nonfat dry milk are produced yearly in the United States?
    A. 10 million
    B. 1 billion
    C. 1 trillion

35. It takes 100 pounds of skim milk to make _______ of nonfat dry milk.
    A. 2
    B. 8
    C. 22

36. Plain ice cream contains a minimum of _________ milk fat.
    A. 1%
    B. 10%
    C. 50%

37. What is the average butterfat content of milk that is produced by a holstein cow?
    A. 4.5
    B. 3.7
    C. 4.0
    D. 3.5

38. Cows milk contains about __________ percent water.
    A. 50%
    B. 75%
    C. 85%
    D. 60%

39. Casein is a milk _________.
    A. Fat
    B. Protein
    C. Vitamin

ANSWERS TO DAIRY KNOWLEDGE ANALYZER

1. True
2. D
3. E
4. True
5. False
6. D
7. True
8. True
9. True
10. True
11. False
12. True
13. A
14. True
15. B
16. D
17. D
18. B
19. A
20. C
21. A. 21.2 pounds
22. B. 2nd - it had over 18.0 billion dollars in farm sales in 1981
23. D. 138.9 billion - that would form a river that would measure 2904 miles long, 41 feet wide and 3 1/2 feet deep; it would stretch from Boston to San Francisco.
24. A. 87 times
25. A. dairy product shipments totaling about $24 billion rank the industry among all manufacturing industries
26. A. 1/5
27. B. not less than 80%
28. True
29. B. 15 - 18
30. B. 5 quarts
31. A. fat and protein content of milk
32. False
33. B. weight
34. B. one billion
35. 8
36. B. 10%
37. B. 3.7%
38. C. 85% water
39. B. protein

BLEND PRICE - MILK

A milk marketing order area has the following data at the end of a pay period:

Use Classification	Price Per Cwt.	Percentage in Each Use Classification	B.F. Differential Base B.F. = 3.5%
Class I	$ 10.68	67%	9.3¢
Class II	$ 8.35	14%	9.3¢
Class III	$ 8.25	19%	9.3¢

Question 1: The dollar amount per hundred weight for milk (4.1% B.F.) is approximately:

a. $ 8.70 - $ 9.20
b. $ 9.21 - $ 9.70
c. $ 9.71 - $10.20
d. $10.21 - $10.70
e. none of the above

Question 2: The total dollar amount received by Producer Smith for 41,868# (3.7% B.F.) is between:

a. $4000 - $4200
b. $4201 - $4400
c. $4401 - $4600
d. $4601 - $4800
e. none of the above

ANSWERS TO HO-1

Question 1: D

10.68 x .67 = 7.16
8.35 x .14 = 1.17
8.25 x .19 = 1.56
$9.89 blend price for 3.5% B.F.

4.1 - 3.5 = .6 points x 9.3 = 55.8¢ (56¢) B.F. differential

9.89 + .56 = $10.45 = D

Question 2: B

$9.89 (blend) + .19 (18.6¢) B.F. = $10.08 pay price

418.68 cwt. x $10.08 = $4220.29 = B

Table 1. Growth of Federal Milk Order Regulation in the U. S. 1947-82.

Year	Number of Markets 1/	Population of Federal Milk Marketing areas 2/	Number of Producers 3/	Producer deliveries	Percentage of Producer deliveries used in Class I	Receipts as % of all milk sold to plants & dealers
	Number	1,000	Number	Million pounds	Percent	Percent
1947	29	*	135,830	14,980	65.5	21
1950	39	*	156,584	18,660	58.9	25
1955	63	46,963	188,611	28,948	62.3	32
1956	68	48,575	183,830	31,380	62.5	33
1957	68	57,297	182,551	33,455	63.8	34
1958	74	60,717	186,155	36,356	64.1	36
1959	77	67,720	187,576	40,149	65.4	40
1960	80	88,818	189,816	44,812	64.2	43
1961	81	93,727	192,947	48,803	61.2	45
1962	83	97,353	186,468	51,648	61.2	47
1963	82	100,083	176,477	52,860	62.4	48
1964	77	99,333	167,503	54,447	62.4	48
1965	73	102,351	158,077	54,444	63.5	48
1966	71	98,307	145,964	53,012	65.7	48
1967	74	103,566	140,657	53,761	64.0	49
1968	67	117,013	141,623	56,444	64.6	52
1969	67	122,319	144,275	61,026	64.3	56
1970	62	125,781	143,411	65,104	61.5	59
1971	62	142,934	141,347	67,872	59.3	60
1972	62	142,934	136,881	68,719	59.6	60
1973	61	141,472	131,565	66,229	61.2	60
1974	61	141,546	126,805	67,778	58.0	61
1975	56	144,467	123,855	69,249	57.9	63
1976	50	143,493	122,675	74,586	54.9	65
1977	47	150,093	122,755	77,947	52.8	66
1978	47	150,131	119,326	78,091	52.7	67
1979	47	150,131	116,447	79,436	51.6	67
1980	47	164,908	117,490	83,998	48.9	67
1981	48	165,459	119,323	87,989	46.3	68
1982	49	169,770	120,751	91,611	44.5	69

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* Data not available.

1/ End of year. (Date on which pricing provisions became effective.)

2/ End of year. 1951-59, 1960-70, 1971-79, 1980-1982 according to 1950, 1960, 1970, and 1980 U. S. census, respectively.

3/ Average for year.

4/ Prices are simple averages for 1947-61 and weighted averages for 1962-82.

Source: U. S. Department of Agriculture, Agricultural Marketing Service

Minimum Federal Order Class I Differentials Before and After the Food Security Act of 1985

3.45

Unit 3
Lesson 4
HO-3

Region	Marketing order	Before act[a]	After act[a]	Change[a]
Corn Belt	Central Illinois	$1.39	$1.61	$0.22
	Eastern Ohio-W. Pa.[b]	1.85	1.95	0.10
	Indiana	1.53	2.00	0.47
	Iowa	1.40	1.55	0.15
	Ohio Valley	1.70	2.04	0.34
	Southern Illinois	1.53	1.92	0.39
Northeast	Eastern Ohio-W. Pa.[b]	1.85	1.95	0.10
	Middle Atlantic[b]	2.78	3.03	0.25
	New England	3.00	3.24	0.24
	New York-New Jersey	2.84	3.14	0.30
Northwest	Oregon-Washington	1.95	1.95	0.00
	Puget Sound-Inland	1.85	1.85	0.00
	SW Idaho-E. Oregon	1.50	1.50	0.00
Southeast	Alabama-West Florida	2.30	3.08	0.78
	Central Arkansas	1.94	2.77	0.83
	Fort Smith, Arkansas	1.95	2.77	0.82
	Georgia	2.30	3.08	0.78
	Greater Louisiana	2.47	3.28	0.81
	Louisville-Lex.-Evans.	1.70	2.11	0.41
	Memphis, Tennessee	1.94	2.77	0.83
	Middle Atlantic[b]	2.78	3.03	0.25
	Nashville, Tennessee	1.85	2.52	0.67
	New Orleans-Miss.	2.85	3.85	1.00
	Paducah, Kentucky	1.70	2.39	0.69
	Southeastern Florida	3.15	4.18	1.03
	Tampa Bay	2.95	3.88	0.93
	Tennessee Valley	2.10	2.77	0.67
	Upper Florida	2.85	3.58	0.73
Southern Plains	Lubbock-Plainview, Tex.	2.42	2.49	0.07
	Rio Grande Valley	2.35	2.35	0.00
	Southwest Plains	1.98	2.77	0.79
	Texas	2.32	3.28	0.96
	Texas Panhandle	2.25	2.49	0.24
Southwest	Central Arizona	2.52	2.52	0.00
	Great Basin	1.90	1.90	0.00
	Lake Mead	1.60	1.60	0.00

(continued)

Unit 3
Lesson 4
HO-3

3.46

Region	Marketing order	Before act[a]	After act[a]	Change[a]
Upper Midwest	Chicago Regional	1.26	1.40	0.14
	Michigan Upper Pen.	1.35	1.35	0.00
	Southern Michigan	1.60	1.75	0.15
	Upper Midwest	1.12	1.20	0.08
Western Plains	Black Hills	$1.95	$2.05	$0.10
	Eastern Colorado	2.30	2.73	0.43
	Eastern South Dakota	1.40	1.50	0.10
	Greater Kansas City	1.74	1.92	0.18
	Nebraska-W. Iowa	1.60	1.75	0.15
	Western Colorado	2.00	2.00	0.00

Note: GAO has listed orders in the region in which they are predominantly located.

[a] Dollars per cwt.

[b] These orders are listed by GAO in two regions since they represent a significant area in each region.

Source: USDA-AMS.

Fluid Utilization Rates by Marketing Order by Region, 1986

Unit 3
Lesson 4
HO-4
3.47

Region	Marketing order	Fluid utilization rate
Corn Belt	Central Illinois	59.9
	Eastern Ohio-Western Pennsylvania[a]	51.1
	Indiana	62.4
	Iowa	27.8
	Ohio Valley	54.7
	Southern Illinois	59.0
Northeast	Eastern Ohio-Western Pennsylvania[a]	51.1
	New England	52.7
	New York-New Jersey	39.8
	Middle Atlantic[a]	46.6
Northwest	Oregon-Washington	39.7
	Puget Sound-Inland	35.4
	Southwestern Idaho-Eastern Oregon	17.7
Southeast	Alabama-West Florida	82.0
	Central Arkansas and Ft. Smith[b]	80.0
	Georgia	81.3
	Greater Louisiana	81.0
	Louisville-Lexington-Evansville	59.9
	Memphis	77.1
	Middle Atlantic[a]	46.6
	Nashville	92.1
	New Orleans-Mississippi	70.9
	Paducah	79.9
	Southeastern Florida	89.3
	Tampa Bay	86.0
	Tennessee Valley	73.1
	Upper Florida	86.3
Southern Plains	Lubbock-Plainview	89.1
	Rio Grande Valley	67.2
	Southwest Plains	49.0
	Texas	65.8
	Texas Panhandle	68.5
Southwest	Central Arizona	57.6
	Great Basin	43.5
	Lake Mead	[c]

(continued)

Unit 3
Lesson 4
HO-4
3.48

Region	Marketing order	Fluid utilization rate
Upper Midwest	Chicago Regional	20.2
	Michigan Upper Peninsula	[c]
	Southern Michigan	43.0
	Upper Midwest	13.8
Western Plains	Eastern Colorado	60.8
	Eastern South Dakota and Black Hills[b]	42.4
	Greater Kansas City	47.9
	Nebraska-Western Iowa	38.3
	Western Colorado	71.3

Note: GAO has listed orders in region in which they are predominantly located, except as noted.

[a] These orders are listed by GAO in two regions since they represent a significant area in each region.

[b] Data for these two orders were combined by USDA to mask restricted data.

[c] Data for 1986 restricted by USDA.

Source: Dairy Market Statistics—1986 Annual Summary, USDA.

Unit 3
Lesson 4
VM-1
3.49

MARKETING MILK

- MILK USE
  - FLUID (grade A)
    - CLASS I — bottling milk
    - CLASS II — soft manufactured products
    - CLASS III — hard manufactured products
  - MANUFACTURING
    - HARD (store easily)
      - cheese
      - butter
      - dried milk products
      - evaporated milk products
    - SOFT (short life)
      - eggnog
      - cottage cheese
      - yogurt
      - ice cream
      - infant formulas

UNIT 3: Price and Grades for Livestock, Livestock Products, Grains, and Forages

LESSON 5: Eggs and Poultry Meat

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Describe the vertical integration found within the poultry industry.

2. Indentify the different grades of poultry meat within the industry and their uses.

3. Identify the different grades of poultry and their affect on marketing.

MATERIALS/REFERENCES NEEDED:

1. The Marketing of Poultry and Eggs

2. Time Line for Egg Production, HO-1

VISUAL MASTERS:

VM-1	Egg Industry Business Components
VM-2	Net Movements of Eggs Through Commercial Marketing Channels.
VM-3	Weekly Value of Consumer Expenditure for Eggs as a Percentage of the Yearly Average Expenditures on Eggs
VM-4	Integration of Market Egg, Broiler, and Turkey Production, Selected Years

INTEREST APPROACH:

1. Bring a dozen eggs to class. Ask what factors determine how the eggs are classified by grade and by size. Point out that medium eggs weigh 21 oz./dozen and that each weight level increases/decreases in 3 oz. increments. If an egg candler is available, candle the eggs to check Grade A quality. Point out some general defects that lessen the quality of the egg such as blood spots, large air cell, cracks, and embryonic growth.

2. Ask students why there has been a very large increase in broiler and turkey production in recent years. The increase has been due to consumer demand and decreased cost of production. Poultry meat is relatively low in fat and cholesterol. Improvement in nutrition, management, and breeding have substantially reduced costs of production.

QUESTIONS:

1. **How long does it take for a layer to reach full production?** Use HO-1.
   Answer: 140 days for chicks to become pullets and 84 days for eggs to become large enough to market.

2. **What factors influence egg size and productivity?**
   Answer: Season
   Light
   Molt
   Age
   Nutrition

3. **How is the egg industry structured?**
   Answer: See VM-1 and 2.

4. **What specific technical improvements have provided growth in the broiler and turkey industry?**
   Answer:
   A. Breeding (genetics), better feed efficiency and quality
   B. Improved facility design
   C. Improved nutrition

5. **How is poultry industry structured?** Use VM-4.
   Answer: High presence of vertical integration throughout the industry. The owners of the birds could also be the retailers of the poultry carcasses or eggs.

6. **Where are broiler and turkey producing areas located and why?**
   Answer: Generally in grain growing regions or in regions with good weather conditions and low facility and labor costs. Market location is not a big consideration in poultry meat production because of the high degree of vertical integration.

7. **When is consumer demand the highest for eggs during the year?** Use VM-3.
   Answer: Easter, Thanksgiving, and Christmas.

STUDENT ACTIVITIES:

1. Practice judging grades of inferior eggs. Candle eggs (preferably obtain eggs from egg laying operation) to locate defects. Broken-out eggs can also be judged. Use USDA guide for judging interior and broken-out eggs.

2. Visit some business components of the poultry industry located in your area. Have students report on the function of the business and its relationship with other components of the poultry industry.

CONCLUSION:

1. The poultry industry is a very specialized and integrated business where all marketing decisions are often made by one firm.

2. Increases in consumer demand for poultry and technological improvements have greatly expanded the poultry industry.

3. Demand for eggs has continued to decline. While consumption in itself does not measure demand, egg consumption per capita has continued to decline in recent years.

4. Poultry and egg grades are used to maintain quality standards for consumers and provide incentive for quality production.

THE MARKETING OF POULTRY AND EGGS
From Chicken to Souffle:
A Description of Egg Production

The egg industry is best understood by beginning with a description of egg production. Egg production begins with careful grandparent stock breeding. Grandparent stock breeding produces eggs which are hatched to produce chickens which will lay eggs to be eaten. This stock is bred for its productivity. The chicks in the grandparent stock are grown to a production age of six months and are then used to produce hatching eggs for one year. The hatching eggs are then in turn hatched to produce the chickens which will eventually lay unfertilized eggs for consumption. The hatching eggs produce chicks which are fed on a special ration for 20 - 24 weeks at which point they are ready-to-lay pullets. A graphics presentation and a time line of egg production is presented in Exhibits 8 and 9.

The ready-to-lay pullets are then put into hen houses where they spend most of the following 12 to 15 months laying eggs. At the end of their useful laying life, the hens are slaughtered and sold to be eaten.

Several uncontrolled factors, notably time of year and age of the chicken, affect production. The youngest hens lay smaller eggs and as they get older, rate of lay decreases and size increases. Older layers also lay eggs with more irregularities in the shell and yolk. Hot and cold weather influence the size of the eggs and productivity by altering the eating habits of the hens. Producers try to compensate for climactic changes by altering the nutritional mix of the feed, but this is a complex art, difficult to control.

Producers use several techniques to consciously manage the size and productivity of their flock. Most notable among these methods is forced moulting. By force moulting hens, farmers can increase the rate of lay and egg shell quality by controlling lighting and feed mix. Birds out of captivity normally stop laying eggs during the winter and farmers can stimulate this by altering their environment. During moulting, the chicken will lose and replace feathers, drop about 20 percent of their weight, and become dormant. This action can extend the laying lifetime of a hen up to two years. The season immediately after Easter is a common time to moult flocks since demand price are traditionally low.

A second control technique is to cull one's flock. This technique is a simple one which involves killing less productive birds. Both culling and moulting are common during times when egg demand is low or the price/cost differential is unfavorable.

Once the eggs have been laid (100 chickens will lay an average of 65 eggs a day on an annual basis), they are collected and processed. Eggs are trucked to a processing plant where they are stored temporarily in a cool house until they can be treated. They are then washed and checked for defects. This check is known as candling. At the candling station a bright light is shown through the eggs. Experts examine each egg for irregularities in the shell, blood spots on the yolk, and air bubbles. Bad eggs are removed as under grades. An inspector is present and sometimes makes random checks on the quality of the eggs. After candling the eggs are packed in one of several ways. Either they can be graded and cartoned or shipped as loose eggs.

At this point one of several things happens. The washed eggs can enter the retail channels directly to be sold as shell eggs (the kind one eats for breakfast) or they can be further processed at a breaking plan.

Egg breaking is a controlled scientific operation. Upon arriving at the plant eggs are usually put in cold storage. Once the egg is ready to be cracked, it is moved into a room of intermediate temperature which helps increase yields by reducing the amount of egg that clings to the shell after it is broken. Most breaking operations have their own washing and candling operations and perform the cleaning tasks described above in-house. Thus, the eggs that enter the warehouse usually come directly from the hen house and are called nest run eggs.

After the eggs have been cleaned and candled, they are cracked by automatic machines. The cracked eggs are then either separated into egg whites, yolks, or kept as whole eggs. The eggs are pasteurized and then either shipped in liquid, frozen, or dried form.

Vertical Integration of the Poultry Industry

Vertical integration, either via ownership or contracting, offers several potential advantages and opportunities. Financing can be more readily obtained because risk to any particular segment is reduced and shared. Integration also provides the vehicle for coordinating all phases of production and marketing so that input and output can be standardized and each set of facilities used more fully. Poultry enterprises are probably more suited to vertical integration than most other forms of animal agriculture. Significant breakthroughs in nutrition, breeding, and disease control have been made in a short time; and the short productive and reproductive cycle for poultry allowed quick adaptation to vertical integration within the industry.

Integration is most complete in the broiler industry with 99 percent owned or contracted for by the integrators in 1977 (VM-). About 90% of the turkeys and market eggs are integrated with direct ownership more common than for broilers. The market outlet is determined before the eggs, broilers, or turkeys are produced.

Costs of Production

The costs of producing broilers, turkeys, and eggs has changed dramatically since 1955. Tremendous gains were made in efficiency, but at times these improvements were overshadowed by price increases for the inputs.

Producers have tended to respond to profits or losses in poultry rather quickly - apparently more quickly to profits than to losses. This responsiveness has meant a close relationship between costs of production and prices. Turkey profits averaged about 5 cents per pound over the last 10 years. Returns to egg producers averaged about 2 cents per dozen. Costs and returns have been very close for broilers. Economic integration has provided a mechanism for adopting and encouraging technological improvements, thereby increasing efficiency.

Greater reduction, efficiency, especially in feed conversion and labor use, has held down unit costs of production for poultry products. Feed conversion has improved so that a ton of feed now produces about 37 percent more pounds of broilers, 54 percent more turkey, and 39 percent more eggs than in 1955. Improved feed conversion helps in two ways: by reducing feed cost per unit of production and by reducing labor to handle feed.

Poultry farm labor has also become more productive. Labor required to produce 100 pounds of broilers declined from 5.1 hours during 1945-49 to an average of only 8 minutes during 1976-80. Meanwhile, labor used to produce 100 eggs dropped from 90 minutes to about 14 minutes. These gains have been achieved through various efficiencies including more automated equipment, larger houses, and more productive birds. Rate of lay increased steadily from 174 eggs per hen in 1950 to 242 in 1980. Higher productivity enabled producers to meet the demand for eggs with fewer hens - 288 million in 1980 compared with 300 million in 1950.

The above efficiencies have been achieved through improved breeding, nutrition, housing and equipment, disease control, and management. Producers have become specialists, and small-volume producers no longer account for a significant proportion of commercial poultry production. Poultry production costs are also affected by the increased productivity in feed grain production.

The Structure of the Egg Industry

The egg industry, as will all agribusiness commodity systems, has been influenced greatly by technological, institutional, and structural change. Innovations in production and marketing have changed the way one competes in this commodity system. Among the most important trends in this industry have been the following:

The industry has been marked by a decrease in the number of producers and an increase in the size of the remaining ones.

Between 1964 and 1969 the number of farms with laying birds decreased by over 60 percent. By 1974, that number had dropped another 32 percent from the 1969 figure. The 34 largest producers account of 25 percent of U.S. egg production. About 80 percent of production now comes from integrated firms. To compete, producers have stressed production efficiency and economies of scale. This has increased the capital requirements of going into production and, thus, fixed costs. This has raised the barriers to entry and exit. High fixed costs have encouraged producers to add hens to their flocks to increase contribution and, thus, has created frequent oversupply of eggs.

Buyers control market power. Despite increased producer integration which has increased producer clout, buyers have the advantage in contract and price negotiation. Whereas there were over 8,700 farms with over 3,000 layers in 1978, the top 40 buyers accounted for 60 percent of all purchases. Competition for access to the large buyers has helped depress prices. As pressures to get the large accounts increase, producers poach on competitor's territory by offering discounts.

The industry has moved toward integration where one firm controls grow out, production, processing and packing, and marketing. More eggs are sold by integrated producer/processors directly to retailers. Wholesalers and brokers are less important than formerly as eggs bypass the traditional city marketing channels.

There are innumerable firm configurations in the egg industry. As a generalization, there exists three separate groups who sometimes overlap. The first group is composed of companies involved primarily in input. This group would include: breeding, hatching, supplying farm equipment, and feed. The second group at the other end of the chain are retailers who have rarely become involved in integrating backward into production. The third group, producers and processors, have become increasingly integrated.

Wholesalers still serve an important task in this system. Wholesale distributors buy processed eggs and distribute them to smaller accounts, such as the "mom and pop" stores who do not sell enough eggs to justify direct contracting with an integrated producer. Large retail outlets, however, buy most of their eggs directly from processors and bypass the wholesalers. Breakers and dryers (those who break eggs and market them in liquid, frozen, or dried form) are sometimes integrated with packers but not as often as producers are with packers.

The number and size of packing plants has changed recently. Whereas in the late 1950's there were over 15,000 entities which handled eggs in one way or another, by 1976 that number had boiled down to 4,394. The average volume of each plan has increased accordingly.

POULTRY KNOWLEDGE ANALYZER

Name:

T F 1. Eggs are classified by weight and size.

T F 2. Most broiler operations are owned by individuals.

T F 3. Improved nutrition has increased the efficiency of the poultry industry.

T F 4. Iowa is considered part of a large egg producing region.

T F 5. Iowa is considered part of a large turkey producing region.

T F 6. Most poultry operations are integrated and owned by one firm.

T F 7. Poultry meat is low in fat and high in cholesterol.

T F 8. Egg size is affected by the facilities the layers are housed in.

T F 9. Owners of large flocks of laying hens may also retail the eggs.

T F 10. Candling refers to the procedure used to evaluate the interior of eggs.

KEY FOR POULTRY KNOWLEDGE ANALYZER

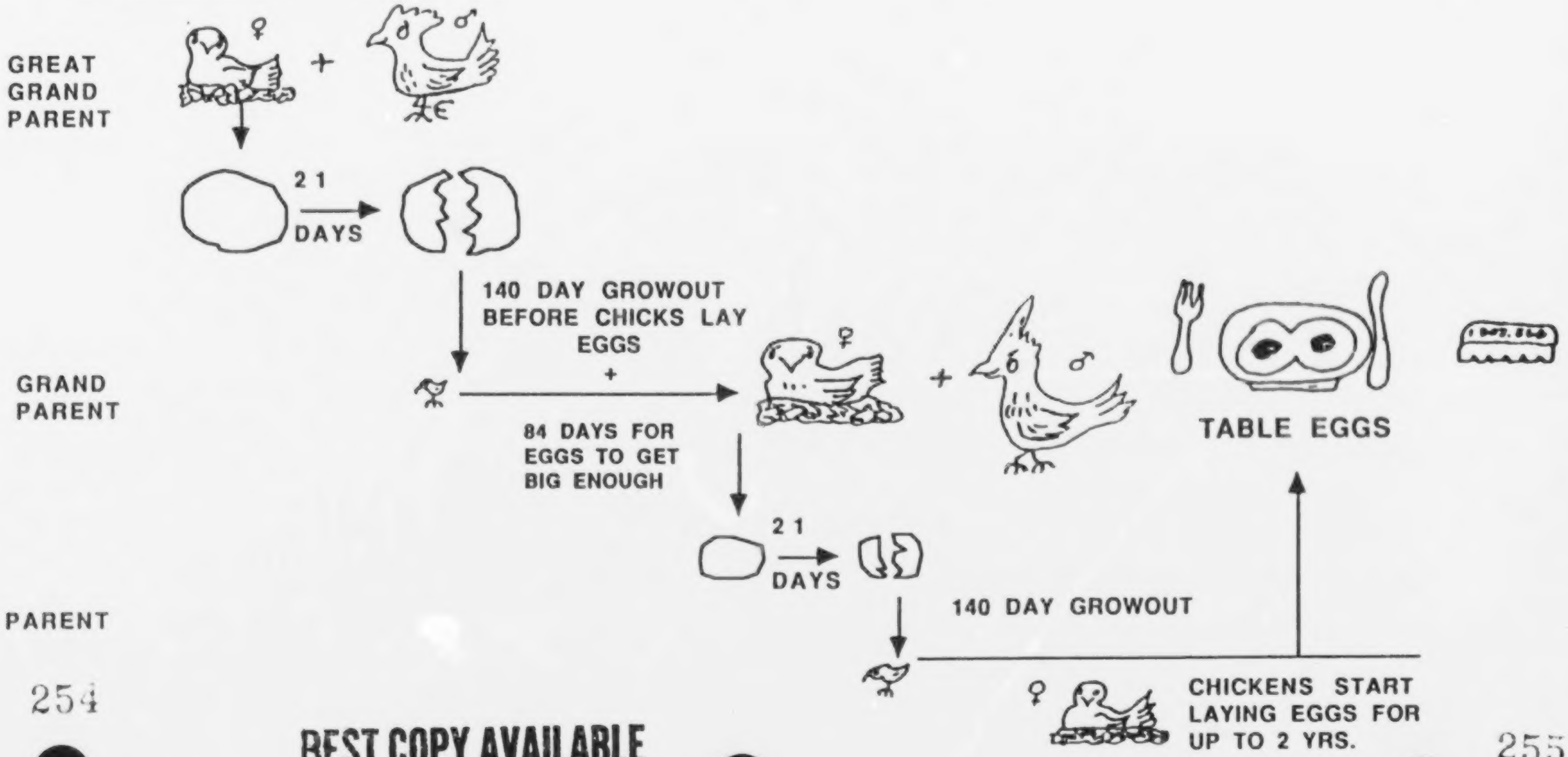
1. F
2. F
3. T
4. F
5. T
6. T
7. F
8. F
9. T
10. T

Unit 3
Lesson 5
HO - 1
3.58

TIME LINE FOR EGG PRODUCITON

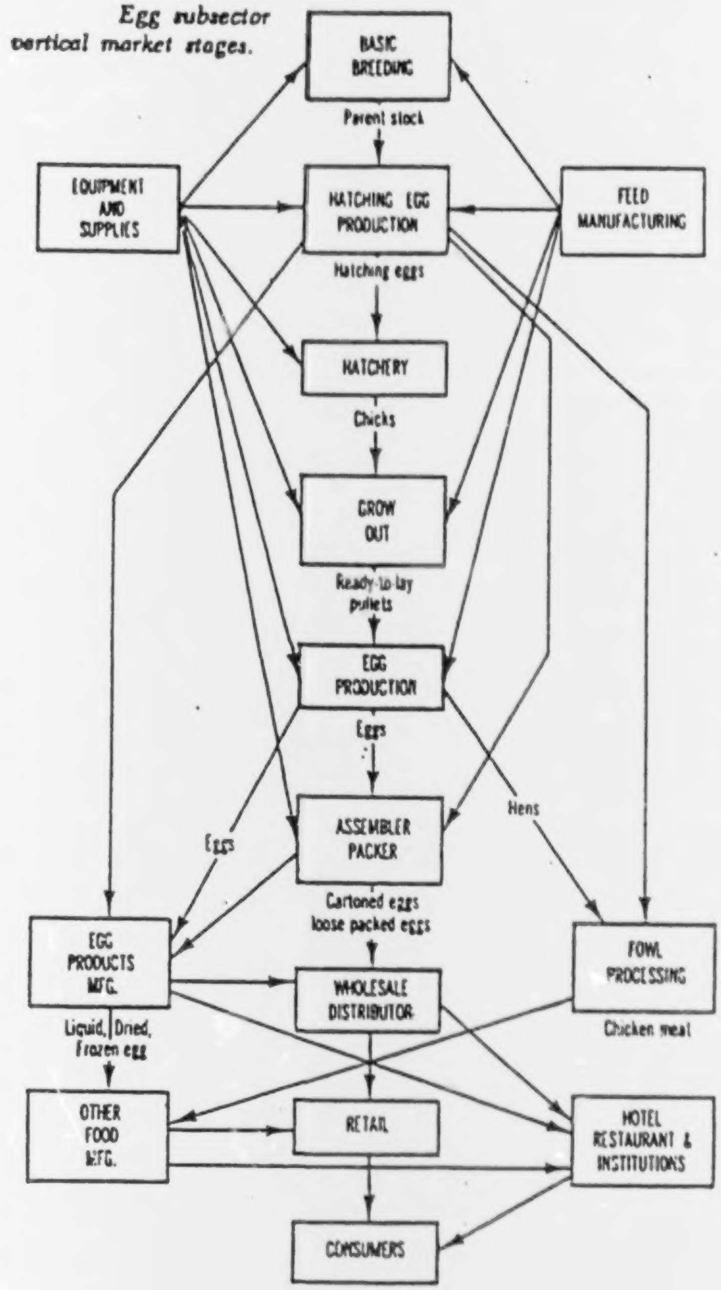
START HERE

BREEDERS USUALLY HAVE GREAT GRAND PARENT STOCK ON HAND. IF NOT, ADD ONE MORE GROWING CYCLE


GREAT GRAND PARENT
♀
+
♂
21
DAYS
140 DAY GROWOUT BEFORE CHICKS LAY EGGS
+
84 DAYS FOR EGGS TO GET BIG ENOUGH
GRAND PARENT
♀
+
♂
TABLE EGGS
21
DAYS
PARENT
140 DAY GROWOUT
♀
CHICKENS START LAYING EGGS FOR UP TO 2 YRS.

BEST COPY AVAILABLE

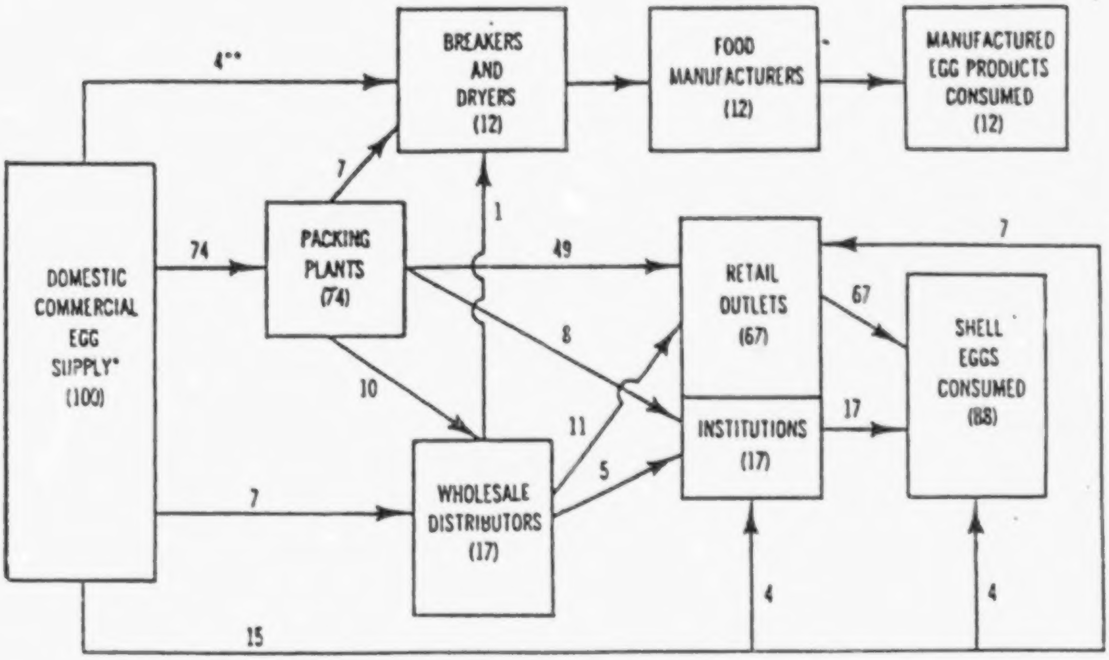
EGG INDUSTRY BUSINESS COMPONENTS



Egg subsector vertical market stages.

BASIC BREEDING
Parent stock
EQUIPMENT AND SUPPLIES
HATCHING EGG PRODUCTION
FEED MANUFACTURING
Hatching eggs
HATCHERY
Chicks
GROW OUT
Ready-to-lay pullets
EGG PRODUCTION
Eggs
Eggs
Hens
ASSEMBLER PACKER
Cartoned eggs loose packed eggs
EGG PRODUCTS MFG.
WHOLESALE DISTRIBUTOR
FOWL PROCESSING
Liquid, Dried, Frozen egg
Chicken meal
OTHER FOOD MFG.
RETAIL
HOTEL RESTAURANT & INSTITUTIONS
CONSUMERS

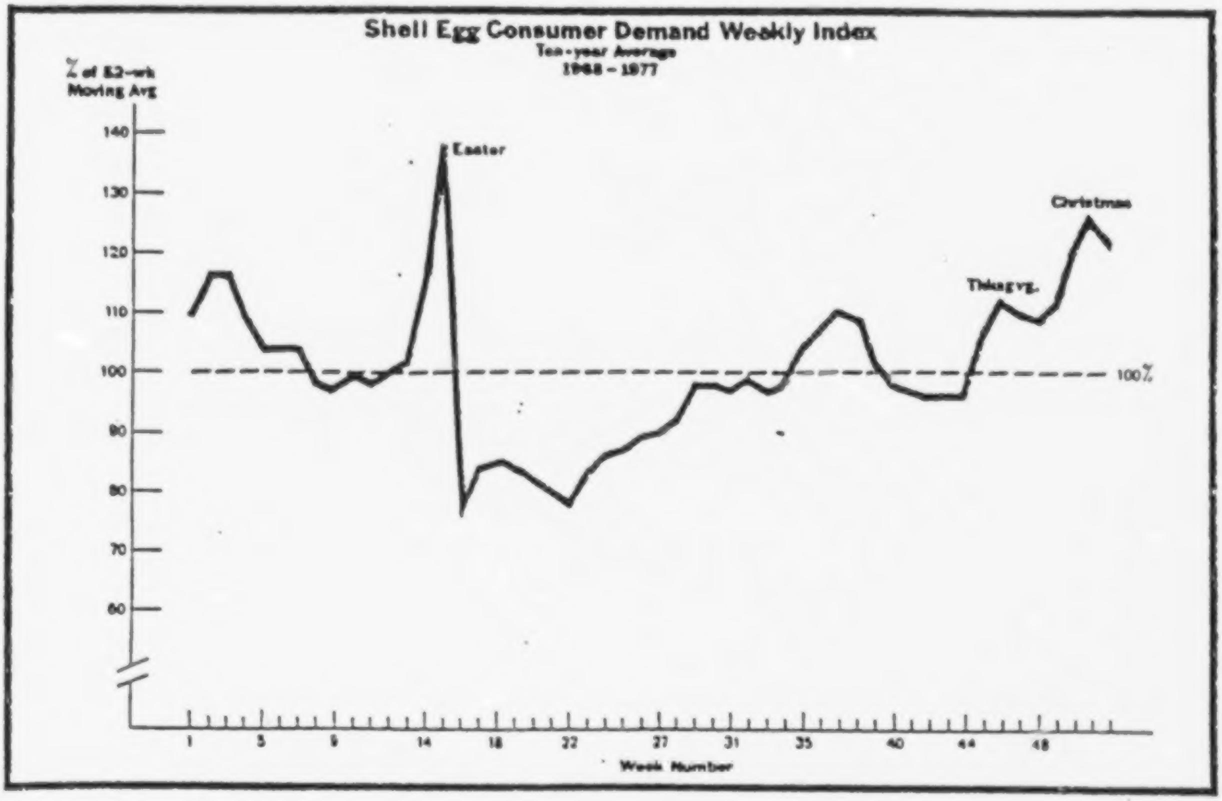
NET MOVEMENT OF EGGS THROUGH COMMERCIAL MARKETING CHANNELS


4**
BREAKERS AND DRYERS (12)
FOOD MANUFACTURERS (12)
MANUFACTURED EGG PRODUCTS CONSUMED (12)
7
1
7
DOMESTIC COMMERCIAL EGG SUPPLY* (100)
74
PACKING PLANTS (74)
49
RETAIL OUTLETS (67)
67
SHELL EGGS CONSUMED (88)
8
10
11
INSTITUTIONS (17)
17
5
7
WHOLESALE DISTRIBUTORS (17)
4
4
15

*Excludes exports, imports, eggs consumed on farms where produced, and eggs used for hatching.
**Percentages of domestic commercial egg supply.

Source: USDA.

Weekly Value of Consumer Expenditure for Eggs as a Percentage of the Yearly Average Expenditure on Eggs



Source: UEP.

Integration of market egg, broiler, and turkey production, selected years

Item	1955	1960	1965	1970	1975	1977
			Percent			
Market Eggs						
Contract Production	0.5	7.0	18.0	20.0	37.0	44.0
Owner-Integrated production	1.5	5.5	12.5	20.0	32.0	37.0
Contract marketing	12.5	13.5	13.5	15.0	10.0	9.0
Total	14.5	26.0	44.0	55.0	79.0	89.0
Commercial Broilers						
Contract Production	87.0	90.0	90.0	90.0	90.0	88.0
Owner-Integrated Production	2.0	5.0	5.5	7.0	8.0	10.0
Contract Marketing	1.0	1.0	1.5	2.0	1.0	1.0
Total	90.0	96.0	97.0	99.0	99.0	99.0
Market Turkeys						
Contract Production	21.0	30.0	35.0	42.0	47.0	52.0
Owner-Integrated Production	4.0	4.0	8.0	12.0	20.0	28.0
Contract Marketing	11.0	11.0	13.0	18.0	14.0	10.0
Total	36.0	50.0	56.0	72.0	81.0	90.0

UNIT 3: Price and Grades for Livestock, Livestock Products, Grains, and Forages

LESSON 6: Corn, Soybeans, and Oats

OBJECTIVES:

Upon completion of this lesson, the student will be able to:

1. List the criteria used in grading soybeans, corn, and oats.

2. Calculate the actual price received from a crop sale when discounts are subtracted from the bid price.

3. Calculate costs of drying and storing corn when compared to cash sale.

4. Describe methods used to improve grain quality prior to sale.

MATERIALS/REFERENCES NEEDED:

1. Student Reference for Agricultural Marketing, Instructional Materials Laboratory, Columbia, Missouri, pg. 15-18.

2. Farm Crops Identification and Judging, Instructional Materials Laboratory, Columbia, Missouri.

3. Percent Shrinkage When Grain is Dried to Specific Moisture Levels, HO-1

4. Grain Drying Problem, HO-2

5. Corn Scale of Discounts, HO-3

VISUALS MASTERS:

VM-1	Grain Grading Equipment
VM-2	Grade Requirements for Yellow, White, and Mixed Corn
VM-3	Grade Requirements for Soybeans
VM-4	Schedule of Discounts for Yellow Soybeans
VM-5	U.S.D.A. Grade Requirements for Oats

INTEREST APPROACH:

1. Set up a class of grain to be judged. Be sure to make a clear distinction of grades between each sample to make judging easier at this point. Ask students to give their reasons that justify their placing. Note that every load of grain is sampled to maintain consistent quality within

the grain industry. Use "Farm Crops Identification and Judging" as a guide.

2. Ask students what reasons grain they or their parents have sold has been discounted at the grain elevator. Ask what could be done to decrease the amount of discounts deducted at the elevator and determine if the procedure was feasible.

3. Show students four pictures of cars, all with some small defect. Ask students which car they would buy and why. Point out that car manufacturers have quality standards that help consumers from purchasing a vehicle that has safety defects. The grain industry also has standards they have set to ultimately protect the consumer and provide quality in grain markets.

QUESTIONS:

1. **What equipment is necessary to grade grain? Describe each piece of equipment's use.**
   Answer: Use VM-1.

2. **What standards are used to evaluate soybeans?**
   Answer: Use VM-3 and 4.

3. **What standards are used to evaluate corn?**
   Answer: Use VM-2 and HO-3.

4. **What standards are used to evaluate oats?**
   Answer: Use VM-5.

5. **What options does a farmer have to improve the quality of his/her grain once it is harvested?** Use HO-1, 2.
   Answer: Student Reference in Agricultural Marketing, p. 17.
   a. Dry grain to avoid moisture discounts
   b. Farmers with adequate facilities may "blend" grain prior to selling or sell it to a local elevator with this equipment. Example: blending quality grain with low quality grain so that the entire lot sells as No. 2 corn.

STUDENT ACTIVITIES:

1. Set up a grain judging contest with your class. have them judge many different kinds of seeds to get a feel for looking at the quality of grain. Use the "Farm Crops Identification and Judging Guide" for directions on how to set up classes of grain. Give students a grade for their evaluation.

2. Visit local elevator and observe the grading of grain while there. Students should write a report describing

the procedures they witnessed at the elevator being used to grade grain. Make sure they identify all equipment used and state the purpose of that equipment.

3. Using a microwave and dietary scale, determine the moisture content of grain by weighing the grain prior to placing it in the microwave to drive out the moisture and taking another weight to determine the percent moisture.

4. AgriData (AgEd Network) subscribers may want to use one or more of the following lessons: Markets for Oats (HS306), Markets for Soybeans (HS260), and Markets for Corn (HS223).

CONCLUSION:

1. Merchandising high quality grain will provide added income to the producer willing to spend the time to do a good job harvesting or blending grain.

2. Understanding the kind of discounts applied to a particular grain will help guide the seller towards marketing high quality grain.

3. Drying and storing grain may be feasible when costs of drying are less than the discount received for wet grain. Remember that you will generally make up half the discount on weight added by wet grain.

KNOWLEDGE ANALYZER
CORN, SOYBEANS, AND OATS

Name:

_____ 1. Regardless of whether you sell at harvest, store, or hedge, it is always to your advantage to obtain the best cash price when you deliver your grain. True or False.

_____ 2. Unclean harvesting and storage equipment may affect the grade of your grain. True or False.

_____ 3. Elevators generally will not have a discount price because they deal only with No. 1 grade. True or False

_____ 4. All grain is priced on the basis of Grade No. 1 (No. 1 soybeans, No. 1 corns, etc.) True or False

_____ 5. It always is profitable to dry grain to avoid moisture discounts. True or False

_____ 6. The typical moisture discount for grain is 1 percent for each .5 percent moisture above maximum. True or False

_____ 7. Correct setting of harvesting equipment is important to avoid discounts. True or False

_____ 8. Blending is the mixing of grain with different amounts of moisture, foreign material, etc. to avoid or reduce a discount. True or False

_____ 9. Drying soybeans to 10 percent moisture compared to 13.0 percent will increase the net price per bushel. True or False

_____ 10. Corn, soybeans, wheat, and milo all need to be dried to 12 percent to avoid a moisture discount. True or False

ANSWERS TO KNOWLEDGE ANALYZER

1. True
2. True
3. False
4. False
5. False
6. True
7. True
8. True
9. False
10. False

PERCENTAGE SHRINKAGE WHEN GRAIN IS DRIED TO SPECIFIED MOISTURE LEVELS*

Initial moisture level	Shrinkage when grain is dried to:					
	13%	13.5%	14%	14.5%	15%	15.5%
%	%	%	%	%	%	%
13.0	0	0	0	0	0	0
13.5	1.07	0	0	0	0	0
14.0	1.65	1.08	0	0	0	0
14.5	2.22	1.66	1.08	0	0	0
15.0	2.80	2.23	1.66	1.09	0	0
15.5	3.37	2.81	2.24	1.67	1.09	0
16.0	3.95	3.39	2.83	2.25	1.68	1.09
16.5	4.52	3.97	3.41	2.84	2.26	1.68
17.0	5.10	4.55	3.99	3.42	2.85	2.28
17.5	5.67	5.12	4.57	4.01	3.44	2.87
18.0	6.25	5.70	5.15	4.59	4.03	3.46
18.5	6.82	6.28	5.73	5.18	4.62	4.05
19.0	7.40	6.86	6.31	5.76	5.21	4.64
19.5	7.97	7.44	6.90	6.35	5.79	5.23
20.0	8.55	8.01	7.48	6.93	6.38	5.83
20.5	9.12	8.59	8.06	7.52	6.97	6.42
21.0	9.70	9.17	8.64	8.10	7.56	7.01
21.5	10.27	9.75	9.22	8.69	8.15	7.60
22.0	10.84	10.33	9.80	9.27	8.74	8.19
22.5	11.42	10.90	10.38	9.86	9.32	8.78
23.0	11.99	11.48	10.97	10.44	9.91	9.38
23.5	12.57	12.06	11.55	11.03	10.50	9.97
24.0	13.14	12.64	12.13	11.61	11.09	10.56
24.5	13.72	13.22	12.71	12.20	11.68	11.15
25.0	14.29	13.79	13.29	12.78	12.26	11.74
25.5	14.87	14.37	13.87	13.37	12.85	12.33
26.0	15.44	14.95	14.45	13.95	13.44	12.93
26.5	16.02	15.53	15.03	14.54	14.03	13.52
27.0	16.59	16.11	15.62	15.12	14.62	14.11
27.5	17.17	16.68	16.20	15.70	15.21	14.70
28.0	17.74	17.26	16.78	16.29	15.79	15.29
28.5	18.32	17.84	17.36	16.87	16.38	15.88
29.0	18.89	18.42	17.94	17.46	16.97	16.48
29.5	19.47	19.00	18.52	18.04	17.56	17.07
30.0	20.04	19.58	19.10	18.63	18.15	17.66
30.5	20.61	20.15	19.69	19.21	18.74	18.25

*Formulas:

(1) Shrinkage = 100% minus $\frac{\text{\%D.M. wet grain}}{\text{\%D.M. dry grain}}$ x 100 + 5% (handling shrink)

(2) Value of shrink = price basis grade x shrinkage

(3) Return to drying = discount minus value of shrink

GRAIN DRYING PROBLEM

I. Value of Drying Crop

1. Moisture in Grain: ______________

2. Moisture Base: ______________

3. Moisture Discount:
[(Line 1 - Line 2) ÷.5)] ______________

4. Price of Dry Grain: ______________

5. Value of Discount: ______________
(Line 3 x Line 4)

6. Price of Wet Grain: ______________

II. Cost of Drying

7. Amount of Weight Loss: ______________
(Use HO-4 to determine weight shrink--as an example, 24% grain dried to 13% has a 13.4 weight loss.)

8. Value of Weight Loss: ______________
(Line 4 x Line 7)

9. Charge for Drying: ______________
(2¢/point or own figure)
(Line 1 - Line 2 x .02)

10. Total Cost of Drying ______________
(Line 8 + Line 9)

NOTE: If Line 5 is larger than line 10; it pays to dry prior to selling.

CORN - SCALE OF DISCOUNTS

Subject to Change Without Notice
Applicable on No. 2 or Better Yellow Corn

TEST WEIGHT: 1 cent per bushel for each pound or fraction thereof under 54 pounds to 52 pounds. Then 2 cents per bushel for each pound or fraction thereof.

MOISTURE:

15.5% or less................	-
15.6% to 16.0% inclusive.....	1% of Contract Price
16.1% to 16.5% inclusive.....	2%
16.6% to 17.0% inclusive.....	3%
17.1% to 17.5% inclusive.....	4%
17.6% to 18.0% inclusive.....	5%
18.1% to 18.5% inclusive.....	6%
18.6% to 19.0% inclusive.....	7%
19.1% to 19.5% inclusive.....	8%
19.6% to 20.0% inclusive.....	9%
20.1% to 20.5% inclusive.....	10%
20.6% to 21.0% inclusive.....	11%
21.1% to 21.5% inclusive.....	12%
21.6% to 22.0% inclusive.....	13%
22.1% to 22.5% inclusive.....	14%
22.6% to 23.0% inclusive.....	15%

DAMAGE: 1 cent per bushel for each 1% or fraction thereof in excess of 5% to 10%, then 2¢ per bushel for each 1% to a maximum of 15%.

FOREIGN MATERIAL: 1 1/2 cents per bushel for each 1% or fraction thereof in excess of 3% to 5%, then 3 cents per bushel for each 1% or fraction thereof to a maximum of 7%.

MUSTY: 5 cents per bushel

SOUR: 10 cents per bushel

HEATING: 10 cents per bushel

WEEVILY 2 cents per bushel

HEAT DAMAGE: 2 cents per bushel each 1/2% up to 3% - Maximum 3%.

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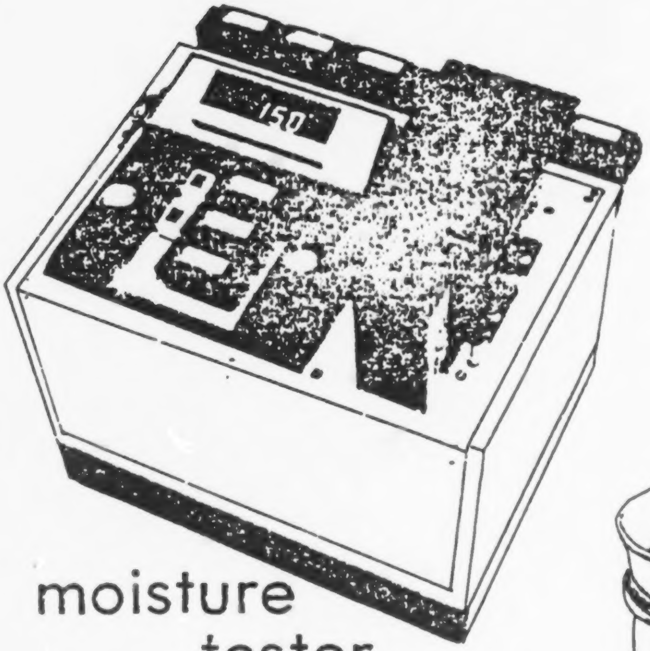
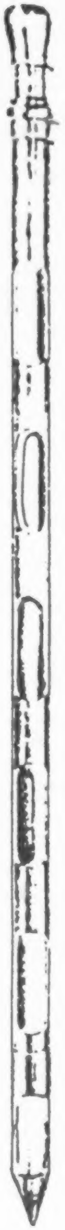
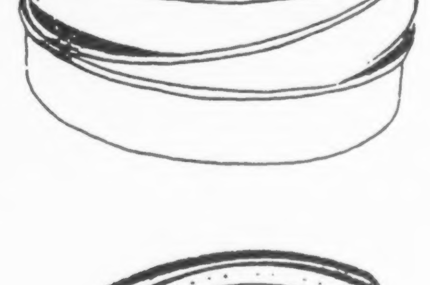
GRAIN GRADING EQUIPMENT



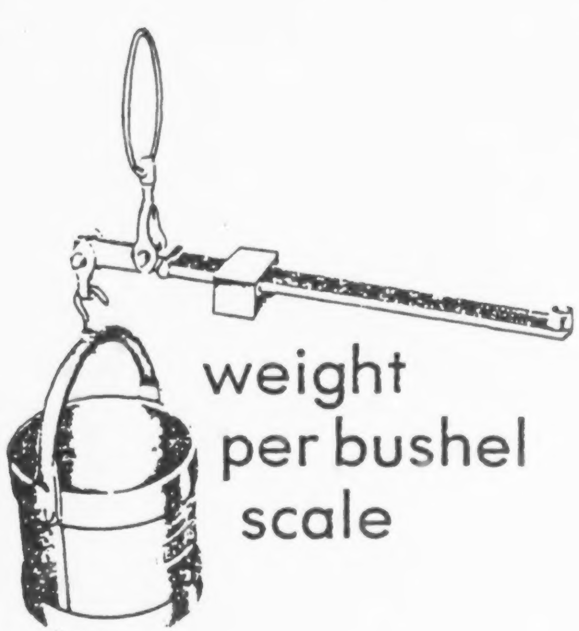
moisture tester



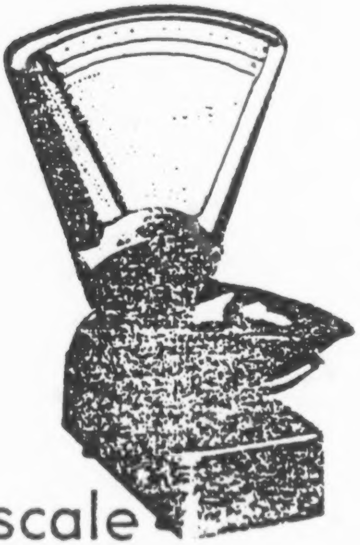
grain probe



dockage sieves



weight per bushel scale



dockage scale

GRADE REQUIREMENTS FOR YELLOW CORN, WHITE CORN, AND MIXED CORN

Grade	Minimum test weight per bu.	MAXIMUM LIMITS OF --			
		Moisture	Cracked corn & foreign material	Damaged kernels	
				Total	Heat-damaged
	lbs.	%	%	%	%
1	56	14.0	2	3	.1
2	54	15.5	3	5	.2
3	52	17.5	4	7	.5
4	49	20.0	5	10	1.0
5	46	23.0	7	15	3.0

Sample: Sample grade shall be corn which does not meet the requirements for any of the grades for No. 1 to No. 5, inclusive; or which contains stones; or which is musty, or sour, or heating; or which has any commercially objectionable foreign odor; or which is otherwise of distinctly low quality.

GRADE REQUIREMENTS FOR SOYBEANS

Grade	Minimum test weight per bu.	MAXIMUM LIMITS OF --					
		Moisture	Splits	Damaged kernels		Foreign material	Brown, black &/or bicolored beans in yellow or green beans
				Total	Heat-damaged		
	lbs.	%	%	%	%	%	%
1	56	13.0	10	2.0	.2	1.0	1.0
2	54	14.0	20	3.0	.5	2.0	2.0
3*	52	16.0	30	5.0	1.0	3.0	5.0
4**	49	18.0	40	8.0	3.0	5.0	10.0

Sample: Sample grade shall be soybeans which do not meet the requirements for any of the the grades from No. 1 to No. 4, inclusive; or which are musty, sour, or heating; or which have any commercially objectionable foreign odor; or which contain stones; or which are otherwise of distinctly low quality.

*Soybeans which are purple mottled or stained shall be graded not higher than No. 3.

**Soybeans which are materially weathered shall be graded not higher than No. 4.

SCHEDULE OF DISCOUNTS FOR YELLOW SOYBEANS

Subject to Change Without Notice

TEST WEIGHT DISCOUNT	Per.Bu.	MOISTURE DISCOUNT	SPLITS DISCOUNT	Per.Bu.	DAMAGE DISCOUNT	Heat Damage Per.Bu.	Other Damage Per.Bu.
54# or more	. .	1% of CONTRACT PRICE for each 1/2% of Moisture or fraction thereof over 13.0%	20.0% or less	. .	.0% to .2%	. .	. .
53.9 to 53	1¢		20.1 to 25%	1/4c	.3 to 1.0	2c	. .
52.9 to 52	2¢		25.1 to 30	1/2c	1.1 to 1.5	4c	. .
51.9 to 51	4¢		30.1 to 35	3/4c	1.6 to 2.0	6c	. .
50.9 to 50	6¢		35.1 to 40	1c	2.1 to 2.5	8c	2c
49.9 to 49	10¢				2.6 to 3.0	10c	2c
					3.1 to 3.5	NOTE	4c
					3.6 to 4.0		4c
					4.1 to 4.5		6c
					4.6 to 5.0		6c
					5.1 to 5.5		8c
					5.6 to 6.0		10c
					6.1 to 6.5		12c
					6.6 to 7.0		14c
					7.1 to 7.5		16c
					7.6 to 8.0		18c
Under 49 lbs Subject Rejection or Discount on Merit			Over 40% Subject Rejection or Discount on Merit		NOTE Over 8% damage or 3% heat damage subject to rejection.		

FOREIGN MATERIAL: All foreign material in excess of 1% shall be deducted from the gross weight and will not be paid for.

IN ADDITION TO ALL OTHER DISCOUNTS, THESE WILL APPLY: Musty 5c, Sour 5c, Heating 5c, Hot 10c, Materially weathered 3c

SOYBEANS NOT GRADING WITHIN ABOVE LIMITS WILL BE SUBJECT TO NEGOTIATION BETWEEN BUYER AND SELLER, BUYER RESERVES THE RIGHT TO REJECT ANY SAMPLE GRADE SOYBEANS OR SOYBEANS OF DISTINCTLY LOW QUALITY.

SOYBEANS CONTAINING ANY TOXIC MATERIAL WILL BE REJECTED.

SOYBEANS CONTAINING CROTALARIA WILL BE REJECTED.

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USDA GRADE REQUIREMENTS FOR OATS

GRADE	TEST WT/BU. POUNDS	SOUND CULTIVATED OATS %	HEAT DAMAGED OATS %	F.M. %	WILD OATS %
1	36	97	0.1	2.0	2.0
2	33	94	0.3	3.0	3.0
3	30	90	1.0	4.0	5.0
	27	80	3.0	5.0	10.0

SAMPLE GRADE: OATS WHICH DO NOT MEET ABOVE STANDARDS

UNIT 3: Price and Grades for Livestock, Livestock Products, Grains, and Forages

LESSON 7: Forages

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Determine the potential returns of a hay crop.
2. Identify risks associated with hay production.
3. Describe quality standards used to evaluate forages.
4. Identify potential markets for forages and marketing methods used.

MATERIALS/REFERENCES:

1. Hay, Alternative Ag Enterprise Series. Author: Steve Barnhart, Extension Agronomist, ISU., HO-1
2. Hay Judging Handout, HO-2
3. Alfalfa Hay Budgets, Manual 75, University of Missouri, Columbia, HO-3

VISUAL MASTERS:

VM-1 Hay Judging

INTEREST APPROACH:

1. Bring four similar cookies to class, each of the four should have a distinguishing characteristic. For example: one burnt cookie, one should be less than done, one missing a visible ingredient (chocolate chips, nuts, etc.), and one with no defects. Ask which wold be purchased first and why. Which cookie would bring the highest price? Which the lowest? How does this relate to forage marketing?
2. Bring in at least three hay samples with various moisture contents. Students can guess the moisture contents of the samples. The samples can be tested for moisture at school or taken to an elevator for a test. Share the results of the tests to the class. Point out that moisture content of a forage affects the palatability of a forage. In particular, moisture content influences leaf retention, mold, and mildew.

QUESTIONS:

1. **What returns can be realized from marketing a quality hay product and an undesirable hay product?**
   Answer: $70 to $100 per ton for quality hay.
   $15 to $35 per ton for undesirable hay.

2. **What means of measurement is commonly used to sell hay?**
   Answer: Hay is typically sold by the ton. It is often purchased in small amounts by the bale. Hay also comes in the forms of cubes or pellets and is sold by the ton.

3. **What risks are associated with producing and marketing hay?**
   Answer: Untimely rainfall, cultural practices, over or under investment, and local or national hay supply.

4. **What production investments are involved with hay production?**
   Answer: Refer to Manual 75 budget sheet for alfalfa hay production.

5. **How can the producer manage his production to meet the demanded quality of the buyer?**
   Answer: Produce alfalfa with less than 10% grass. Bales should weigh approximately 60 pounds. Soil fertility must be maintained. Pests must be controlled. Watch weather forecasts. Avoid raking at less than 40% moisture. Bale hay between 18 and 22% moisture.

6. **Which buyers demand high quality hay?**
   Answer: Dairy producers and race horse owners. Beef producers will usually not purchase the highest quality hay.

7. **How can we locate markets for our hay?**
   Answer: Consider hay associations, newspaper advertising, hay brokers, and hay auctions.

STUDENT ACTIVITIES:

1. Using the Hay Judging Handout, discuss factors that affect feeding value hay. After discussing the quality factors, begin organizing a hay judging contest. At first, groups can judge the hay to develop a keen eye for hay quality. After group judging, each student can judge classes of hay. A hay judging card, VM-1, is used to mark the placings for leafiness, color, minimum foreign material, and the overall final placing. Ten points are awarded for each of the factors--leafiness, color, and minimum foreign material. Thirty points are awarded for the final placings. Students can bring a flake of hay from home to be judged. Place samples in groups of four.

A price could be offered for the top group or individual in the contest.

2. As an individual project, students can find information on procedures local farmers use to buy or market forages. Information can be accumulated on buyers, sellers, price range, average price, types of hay sold, harvesting procedures, and input costs. This information could be compiled and organized as a public service for people interested in purchasing or selling hay.

3. AgriData (AgEd Network) subcribers may want to use lessons such as: Markets for Hay (HS354), Value of Hay Market Information (HS361), and Hay/Forage Marketing Decisions (HS363).

CONCLUSION:

Marketing hay can provide added income to the producer who searches for a market and produces high quality hay. As with other agricultural commodities, hay production involves various risks. Untimely rain is considered to be the biggest factor in low quality hay production. Input costs for high yielding alfalfa production costs approximately $139 (manual 75 figure). Markets for hay can be found through a local newspaper, hay auctions, hay associations, and hay brokers. Be accurate and honest in your transaction; each sale contributes to building your reputation in the hay business.

Alternative Ag Enterprises Series
Hay, HO-1
Prepared by Stephen K. Barnhart, Extension Agronomist

Forage crops grown throughout Iowa are harvested as hay, serving as an important part of many livestock enterprises. Successful cash hay enterprises range from livestock producers who sell extra hay on an irregular basis for supplemental income to producers who have concentrated their efforts and management skills on hay as an alternative cash enterprise. The greatest successes are usually achieved by those who incorporate the greatest amount of planning, "market research," and plain hard work into the venture.

Potential cash hay producers must investigate various production and management practices, cash and time commitments, and identify the various markets and marketing methods. Much of this information is available from Iowa State University Extension Service and additional resources listed at the end of this brochure.

Potential Returns

Returns from cash hay production will depend on understanding and the skillful implementation of proper production practices and maintaining a flexible marketing plan. Highly marketable hay crop can return $70 to $200 per ton; a poorly hay product resulting from poor management or in an undesirable "package" may be valued at only $15 to $35 per ton. Hay yields vary according to soil productivity, management, and production losses; but on the average are 4 to 6 tons per acre.

Risks

The greatest risks often associated with hay production is untimely rainfall and an underestimation of the importance of timeliness and attention to detail throughout the production season. To a lesser degree there are risks of low productivity, the use of inappropriate information or cultural practices, over- or under-investment in production inputs, landlord agreements, impact on USDA feed grain program bases, and local or national hay supply.

Investment

Initial hay production investments depend on the cost of resources such as land, labor, machinery, and other production inputs. Land rental may range from $35 to $100 per acre. Even if the land is owned, a fair cash rental value should be charged against the enterprise. Machinery necessary often includes a tractor or two, disk, grain drill or seeder, mower-conditioner, rake, baler, several wagons suitable for hay transport, and bale elevator. Option equipment would include a sprayer and automatic bale handling or stacking machinery. In most situations a dry storage barn will be necessary; or alternatively, provisions must be made for temporary storage on a well drained site, preferably under a plastic cover.

An existing hay meadow can be managed for market hay production with little additional investment. More management time and part-time labor may be required. Compared with harvesting large round bales at $30 per ton, harvest of small rectangular bales will cost about $40 per ton, much of the additional cost coming from extra labor.

Establishing a new hay field will cost about $77 in out-of-pocket costs per acre for land preparation, seed, and fertilizer. An additional $63 non-cash costs per acre should be assumed for machinery depreciation, interest, and labor. In most situations some return from crop produced in the seeding year can be credited toward the seeding year costs which nearly equal the out-of-pocket costs. The remainder of land and non-cash costs must be covered by the production in the later years of production. Hiring custom operators for harvest will cost about $35 per ton.

Management

One of the greatest contributions to the success of a cash hay enterprise is a genuine commitment to timeliness production operations. This requires full attention and priority for the hay crop. This has proven difficult for producers who traditionally have given full time commitment to extensive livestock or large-scale production of other crops.

From beginning to end the cash hay producer must keep as a goal the needs and demands of the marketplace. Premium prices are most often paid for alfalfa or alfalfa with less than 10% grass, cut at a highly nutritious young growth stage. Bales must be in an economically transported form, usually rectangular bales weighing about 60 pounds.

Production for cash market then starts with establishing a thick stand using adapted varieties and excellent seeding technique. Weeds, insects, and excessive competition must be controlled during the seeding year. New fields must have adequate fertility and only moderate harvesting during the establishment season.

During production years maintain soil fertility and monitor and manage insect pests. Harvest in a timely manner keeping in mind nutritive quality. Watch three-to-five-day weather forecasts. Avoid rain damage to cut hay and minimize field exposure time. Avoid raking or handling hay at less than 40 percent moisture content. Bale and store as much of the hay as possible at a moisture content of 18 to 22 percent to avoid excessive field or storage losses.

Marketing

Target your market efforts based on the quality of the hay. Forage test information is helpful in determining the hay feed value potential. Dairy producers demand the highest nutritive quality hay. Horse owners often pay premium prices for very green, leafy hay. Beef producers will not usually by the highest quality hay.

Good hay will sell every year; medium and low quality hay will be difficult to sell some years. So, keep marketing strategy flexible, if hay is not selling in one market, seek out another. Don't overlook local markets. Consider hay associations, newspaper advertising, hay brokers, and hay auctions. Be accurate and honest in your transaction; each sale contributes to building your reputation in the hay business.

Sample Costs

Table 1 shows sample costs for several hay production situations. You will want to use your own figures because costs vary widely among producers.

Resources

Publications:
- AG 84-7, 1987 Iowa Alfalfa Yield Test Report
- PM 1144, Forage Varieties
- Hay and Straw Directory, Iowa Department of Agriculture and Land Stewardship, Wallace State Office Building, Des Moines, IA 50319.

Magazines:
- Hay and Forage Grower, 1999 Shepard Road, St. Paul, MN 55116

Organizations:
- Iowa Forage and Grassland Council, 2104 Agronomy, Iowa State University, Ames, IA 50011
- Several Multi-County Hay Associations are listed in the Iowa Department of Agriculture Hay and Straw Directory

HAY JUDGING, HO-2

Hay is an important crop on many Iowa farms. It is the backbone of cattle and sheep feed rations during the winter. When judging hay, one gives attention to those factors which denote inferior or superior qualities from the standpoint of feeding value.

Over the years, certain visible and measurable factors are known to influence hay quality and animal performance. The most outstanding factors are leafiness and green color with foreign material detracting from the feeding value and appearance. Odor, size stems, and soundness are also important factors but are less easily recognized.

Leafiness in legume hay rates high. This is where most of the nutritive value of the hay is found. There is a direct relationship between leaves and protein, mineral and vitamin content, as well as digestibility. Leafiness also serves as an index to vitamin content since leaves are carriers of green color.

Color is one of the most critical indexes of quality. There is a direct relationship between color, chlorophyll, and carotene (vitamin A) content in hay. The deeper the green color, the higher the vitamin A potency. Green color also gives an indication of how well the hay is cured.

Foreign material is considered useless for feeding purposes and may be harmful. Weedy hay is undesirable since weeds give the hay a bad appearance, are unpalatable, low in nutritive value, and are a source of weed seed which may spread to uninfested fields.

The quality of hay is also influenced by the condition or soundness. Good color, leafiness, etc. also indicate good condition, but moldiness, discoloration, heating, and any musty or offensive odors contribute to unsoundness and similarly lowers the value of the hay.

Samples used in hay judging should not be so nearly alike as to require an expert to tell the difference. Likewise, no sample should be used that contains injurious foreign material, or when it is objectionable because of odor, moldiness, dustiness, or other similar factors.

Cavanaugh, L.E., (1978). Farm Crops Identification and Judging (p. 19), University of Missouri, Columbia, Extension Division

TABLE C-7. ALFALFA HAY BUDGETS

Description of Production: 2.5 T. two cuttings; 4 T. three cuttings; 7' mower; 7' hay conditioner; side delivery rake; square baler; fertilizer custom spread; cost of establishment amortized over 5-year period.

Field yield at harvest	3 T.	5 T.	MY FARM
1. Yield, tons per acre (11% moisture)	2.5	4.0	
2. Price per ton	$ 70	$ 70	$
3. Gross income per acre	$175	$280	$
4. VARIABLE COSTS PER ACRE:[1]			
5. Establishment cost	$ 13	$ 15	$
6. Fertilizer and lime[2]	26	44	
7. Crop chemicals and supplies	$13 or $6	$18 or $6	
8. Custom machine hire	0 or $105	0 or $140	
9. Machinery: fuel, oil, repairs	$35 or $4	$50 or $4	
10. Storage	--	--	
11. Miscellaneous	3	3	
12. Other: ______	--	--	
13. Interest[3]	$6 or $10	$9 or $14	
14. TOTAL VARIABLE COSTS	$96 or $167	$139 or $226	$
15. INCOME OVER VARIABLE COSTS	$79 or $8	$141 or $54	$
16. Labor hours	7 or 2 hrs.	10 or 3 hrs.	hrs.

[1] Ranges are given in variable costs and returns above variable costs to approximate differences between harvest by owner with owned equipment (left side) and complete harvest by custom operator (right side). Fixed machinery costs (not included above) are much higher for the owner harvest option, as are hours of labor. Conventional, rectangular, twine-tied bales are assumed.

[2] Fertilizer costs reflect annual lime costs of $5 per acre as well as 0-30-100 and 0-50-200, respectively, for 3 and 5 ton yields, priced at 26¢ and 13¢ per pound of P_2O_5 and K_2O plus cost of application.

[3] Interest charge is computed at 13% per year on one-half of Items 5 through 12.

FORAGE QUIZ

Name:

1. Hay is most commonly sold by the:
   - A. Bushel
   - B. Bale
   - C. Ton
   - D. Kilo

2. List the factors that influence hay quality.

3. Hay should be baled at ____________% moisture?

4. Who of the following would be a large purchaser of quality hay?
   - A. Sheep owners
   - B. Horse owners
   - C. Beef cattle owners
   - D. Dairy cattle owners
   - E. All of the above

5. Bales should weigh approximately _______ pounds.
   - A. 40 pounds
   - B. 50 pounds
   - C. 60 pounds
   - D. 70 pounds

6. Quality alfalfa hay contains less than ________% grass.
   - A. 5%
   - B. 20%
   - C. 15%
   - D. 10%

7. Alfalfa yields _______ to _______ tons of hay per acre.
   - A. 2 to 4
   - B. 4 to 6
   - C. 6 to 8
   - D. 3 to 5

8. The most serious risk threatening a hay crop is:
   - A. Investment
   - B. Supply
   - C. Landlord agreements
   - D. Untimely rainfall

9. Hay should not be raked at less than ______% moisture.
   - A. 10%
   - B. 20%
   - C. 30%
   - D. 40%

10. Most of the nutrition found in hay is located in the ______.
    A. Stems
    B. Leaves
    C. Flowers
    D. Foreign matter.

FORAGE KNOWLEDGE ANALYZER KEY

1. C
2. LEAFINESS, COLOR, FOREIGN MATTER
3. 18 - 22
4. E.
5. 60 lbs.
6. 10
7. 4 - 6
8. D
9. 40
10. Leaves

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FORM 23

HAY JUDGING*

Factors	1st	2nd	3rd	4th	Judges Scores
Leafiness					
Color					
Minimum Foreign Material					
Final Placing					

*Place the class on each of the q[illegible]lity factors and the Final Placing

UNIT 3: Price and Grades for Livestock, Livestock Products, Grains and Forages

LESSON 8: Wool.

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Describe the preparation of wool for market.
2. Describe the relationship between breed, grade and staple.
3. List the factors in pricing wool.
4. List the methods of selling wool.
5. Describe the effects of the National Wool Act.

MATERIALS/REFERENCES NEEDED:

1. Sheep Health Fact Sheet #13: Producing, harvesting, and Marketing Wool, Cooperative Extension Service, I.S.U., Ames, Ia. PM-927, Nov. 1979.

VISUAL MASTERS:

VM-1 How Wool is Prepared for Market
VM-2 Factors That Affect the Price of Wool
VM-3 National Wool Act

INTEREST APPROACH:

Ask the students what the warmest type of cloth is and why. Explain that wool is the warmest due to the very nature of the fibers. The crimp in the wool causes air pockets that trap the warmth of the body.

QUESTIONS:

1. **How is wool prepared for market (VM-1)?**
   Answer:
   Shearing - removal of wool
   Removal of heave or green tags
   Tied fleece - only with paper twine, other twine tends to melt in the processing
   Sacking - separate wool according to length of wool. Keep wool in a dry place until market time - this avoids contamination of wool

2. **What is the relationship between breed, grade and staple?**
   Answer:

Breed	Grade	Staple	Short
Rambouillet type	Fine	3" over	3" or less
Targhee type	1/2 blood	3 1/4" & over	3 1/4" or less
Columbia type	3/8 blood	3 1/4" & over	3 1/4" or less
Coarser wool	1/4 blood	3 1/4" & over	3 1/4" or less
Hampshire	3/8 blood		
Suffolk	1/4 blood		

3. **What are the factors on pricing wool (VM-2)?**
   Answer:
   A. Grade and length
   B. Length and length distribution
   C. Clean yield
   D. Clean price
   E. Fleece weight

4. **What are the four methods of marketing wool?**
   Answer:

   Wool pools - This is the cooperative way to market wool. Many farmers pool their wool to get the best price.

   Sealed bid - is popular with farmers with sufficient volume to fill a rail car.

   Consignment - The wool is consigned to private individuals or cooperative warehouses for preparation and sale.

   Direct selling - Wool is sold direct to order buyers and others.

5. **How does the National Wool Act work? (VM-3)**
   Answer:

   National Incentive Level - Cents Actual Average = Cents Difference

   Cash difference/cents actual average sale price for the U.S. = Percent payment needed to pay each grower based on the number of pounds of wool sold.

STUDENT ACTIVITIES:

1. Using Activity Sheet 1, calculate the amount received for the wool and the amount of incentive payments due to the farmer.

2. Invite in the local ASCS representative to speak on the current regulations of the National Wool Program. Stimulate a discussion on how the regulations affect agricultural marketing of wool.

3. Using Activity Sheet 3, have the students identify the different types of markets available in the local area. The students should call the market and ask the price per pound of wool.

4. AgriData (AgEd Network) subscribers may want to use the following lessons: Understanding Wool Demand (HS415) and Understanding Wool Supply (HS416).

Activity Sheet 1
Wool and Incentive Payments

National Incentive Level (N.I.L.) - Actual Average Sale Price (A.A.S.P.) for U.S.

Equals

Cents Difference

Cash Difference/Cents Actual Sale Price (A.S.P.) for U.S.

Equals

Percent Payment Need by Grower Based on the Number of Pounds of Wool Sold

Example:

N.I.L. = 1.05   A.A.S.P. = .59   A.S.P. - .70

1.05 - .59 = .46   lbs. of wool 1000
.46 / .70 = .66
.66 x 100 = 66%

Payment from buyer: 1000 x .70 = $700.00
Incentive payment : 700 x .66 = 462.00

Total payment : $1162.00

Solve this problem using the following information:

N.I.L. l= 1.05   A.A.S.P. = .71   A.S.P. = .61   lbs. of wool 1000

What is:
Payment from buyer?
Payment from incentive?
Total payment?

Activity Sheet 2
Wool Markets Available

	Name of Market	Address	Town	Zip	Phone
1					
2					
3					

Price Received Per Pound of Wool

1______________________________

2______________________________

3______________________________

Knowledge Analyzer - Wool

Unit 3, Lesson 8

Name:

1. List the four steps in preparing wool for market.

   a.

   b.

   c.

   d.

2. What are four of the five factors that are taken into consideration in pricing wool?

   a.

   b.

   c.

   d.

3. List and explain two of the four methods of marketing wool.

   a.

   b.

4. Solve the following problem on how much payment the farmer will receive for the wool that is sold. Show your work.

National Incentive Level is 1.10
Actual Average Sale price is .62
Actual Sale Price is .50
Pounds of wool sold is 10,000

Using the above information find the answer to the following.

1. Total received for wool from the buyer________?

2. Total received for wool from incentive________?

3. Total received for the wool____________?

KEY - Knowledge Analyzer - Wool

1a. Shear sheep
1b. Remove heavy or green wool
1c. Tie Fleece
1d. Sack wool or Keep in dry place

2a. Grade and length
2b. Length distribution
2c. Clean yield
2d. Clean price
2e. Fleece weight

3a. Wool pools
3b. Sealed bid
3c. Consignment
3d. Direct selling

4(1) $5000
4(2) $3870.97
4(3) $8870.97

HOW WOOL IS PREPARED FOR MARKET

1. Shearing- The removal of wool.
   Be sure to remove
   heave or green tags.

2. Tie Fleece-Use only paper twine.

3. Sack Wool- Keep wool in DRY
   place until sold.

FACTORS THAT AFFECT THE PRICE OF WOOL

A. Grade and Length

B. Length and Length Distribution

C. Clean Yield Grade

D. Clean Price

E. Fleece Weight

NATIONAL WOOL ACT

Payments are determined as follows:

****

Step 1:

National Incentive Level- Actual Average Sale Price for U.S.

Equals

Cents Difference

****

Step 2

Cents Difference ÷ Cents Actual Sale Price = % Payment

****

Step 3

Percent Payment x Actual Dollar Received for Wool =

Incentive Payment

UNIT 4: Sources of Market Information and Use of Marketing Advisory Services

LESSON 1: Sources of Market Information

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Define market information.
2. Identify specific sources for market information.
3. Compare and evaluate sources of information.

MATERIALS/REFERENCES NEEDED:

1. Farm Futures magazine, November 1987
2. Wallaces Farmer, October 1987
3. Iowa Department of Agriculture, Livestock Market Summary
4. Marketing for Farmers, Chapters 7 and 11

VISUAL MASTERS:

VM-1	To Effectively Market Grain And Livestock
VM-2	Supply and Demand Information
VM-3	Information Gathering Skills

INTEREST APPROACH:

Bring in a magazine or newspaper article on agriculture and report and summarize this information to the class. Discuss whether the article contains marketing information.

QUESTIONS:

1. **Why will marketing information be important in the future?** Use VM-1.
   Answer: U.S. agriculture is part of a world market and affects the world market and is affected by the world market.

2. **What is market information?**
   Answer: Almost anything can be market information. Weather, politics, legislation, economic conditions, what people believe, fads, etc. Anything that may influence supply or demand of a commodity is market information.

3. **What factors influence supply?** Use VM-2, 3.

Answer: Weather, cycles of production, interest costs, government programs.

4. **What factors influence demand?** Use VM-2, 3.
   Answer: Population, income of consumers, substitution of other products, tastes and preferences, new technology, habits, culture, environmental concerns.

5. **What criteria can be used to evaluate market information?**
   Answer: How current information is; how easy it is to understand, does it give recommendations; how often does it come out; what is their rationale for the recommendations; additional relative information; world wide perspective.

STUDENT ACTIVITIES:

1. Read the Farm Futures Outlook Report, Washington Report from Wallaces Farmer, and Iowa Department of Agriculture Livestock Market Summary or other current similar articles. Develop a list of criteria you would use to evaluate these sources of information using Activity 1. Using factors of 1 to 10, rate each of the three articles by each criteria and sum at the bottom. Is one better than the other? Why? Will your perceptions change over time or as your needs vary?

2. Pick four commodities. Do some research in the library or at home. Determine a direction of price movement and an amount of movement of the four and a rationale for predictions. Create a time capsule for predictions and open one month later. Activity 2.

3. Organize a panel of four senior citizens to discuss where they got their information for marketing during prior years. Did different individuals use different information? Did the type of available information change over time?

4. Identify 10 current marketing information sources, find costs, and rank them. What criteria did you use?

5. Research and brainstorm what marketing might be like in the future. How will needs and types of information change in the future? What will be the role of new technology such as computers and satellites? Use information to write a news article for local paper.

6. AgriData (Ag Ed Network) subscribers should show their students how to find information on the system. In addition, there are a number of lessons which relate to this topic. Among the lessons are: Finding Information Sources (HS583), Making Decisions (HS582), and Decision Making Information (HS581).

7. Data Transmission Network (DTN) subscribers (formerly Dataline) should contact their representative. A series of student activities on reading, using, and understanding market information from DTN has been developed. Their address is: Data Transmission Network, 230 SE 16th St., Ames, IA 50010. 515/232-2480.

CONCLUSION:

To effectively market grain and livestock in the 1980's and 1990's farmers will need to spend more time keeping current on U.S. and world supply and demand conditions and incorporate such information in a marketing plan. In short, farmers will need to become more business oriented, using the same sources of information that are heavily relied on by the grain trade.

Sources of marketing information are varied, and different recommendations can be determined from the same types of information. Information that lends itself to interpreting supply and demand is most useful.

Unit 4, Lesson 1 Activity 1

Criteria to evaluate market information

Instructions: Identify ten factors to evaluate market information with. Use a scale of 1 to 10 for each of the factors and rate each article on the factors. Sum rankings to determine which one you rank highest over all.

	Article 1	Article 2	Article 3
Evaluation Criteria Factors			
TOTALS	=========	=========	=========

What three information factors are important to you? Why?

nit 4, Lesson 1 Activity 2

Worksheet for commodity movement and rationale.

Instructions: Choose four commodities and determine a direction and amount of change you expect in the cash price of that commodity during the next 30 days. Give three reasons for your projection.

Commodity	Direction will move in 30 days	Amount price will change	Rationale: Why do you think this will happen? Please give three reasons.

"TO EFFECTIVELY MARKET GRAIN AND LIVESTOCK

IN THE 1980'S AND 1990'S

FARMERS WILL NEED TO SPEND MORE TIME

KEEPING CURRENT ON U.S. AND WORLD SUPPLY/ DEMAND

CONDITIONS AND INCORPORATE SUCH INFORMATION IN A

MARKETING PLAN"

"In short, farmers will need to become more business oriented using the same sources of information that are heavily relied on by the grain trade."

HOW DO YOU FEEL ABOUT THIS STATEMENT?

Marketing for Farmers, P. 117

SUPPLY AND DEMAND-THE ECONOMIC RULE OF THUMB

WHAT FACTORS INFLUENCE SUPPLY?

- WEATHER
- CYCLES OF PRODUCTION
- INTEREST COSTS
- GOVERNMENT PROGRAMS

WHAT FACTORS INFLUENCE DEMAND?

- HUMAN POPULATION
- INCOME OF CONSUMERS
- SUBSTITUTION OF OTHER PRODUCTS
- TASTES AND PREFERENCES
- HABITS, CULTURE, ENVIROMENTAL CHARACTERISTICS

HOW AND WHY SHOULD THE ABOVE FACTORS INFLUENCE SUPPLY AND DEMAND?

IN DEVELOPING INFORMATION-GATHERING SKILLS, FARMERS NEED ANSWERS TO THREE MAJOR QUESTIONS:

WHAT FACTORS WILL HAVE THE GREATEST INFLUENCE ON PRICES?

THE PRICE OF TEA IN CHINA?
A PRESIDENTIAL ELECTION?
NEW TECHNOLOGY?
A NATIONAL CONCERN ABOUT ENVIROMENTAL QUALITY?
WEATHER?
OTHERS?

WHERE CAN I GET CURRENT TIMELY INFORMATION ABOUT THESE FACTORS?

FROM NY NEIGHBORS AND RELATIVES?
FROM HISTORY BOOKS?
FROM MAGAZINES?
A TRIP TO AUSTRALIA?
GOVERNMENT?
OTHERS?

HOW MUCH IMPACT WOULD A SPECIFIC CHANGE IN THESE FACTORS HAVE ON PRICES?

AS IT GETS DRIER, PRICES GO UP?
INTERNATIONAL TRADE BALANCE?

UNIT 4: Sources of Market Information and Use of Marketing Advisory Services

LESSON 2: How is Market Information Compiled?

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Discuss how market information is collected.
2. Determine why market information is compiled.
3. Interpret market information.
4. Relate how other countries affect market prices.

MATERIALS/REFERENCES NEEDED:

1. Marketing for Farmers, Chapters 7 and 11
2. Iowa Farm Business Association Costs of Production
3. Farm Futures Magazine, November 1987
4. Wallaces Farmer, October 1987
5. Iowa Department of Agriculture Newsletter

VISUAL MASTERS:

VM-1	Export Demand
VM-2	USDA, Backbone of Market Information System
VM-3	World Crop Estimate
VM-4	Crop Information from Russia and China
VM-5	Key Foreign Countries

INTEREST APPROACH:

1. You own a DeLorean car worth $40,000. A friend in the automotive industry tells you there is a new company beginning to produce exact replicates on a large volume scale and the value is expected to drop drastically.
2. Should you use this information?
3. How can this information be of help?
4. Who would you expect to be the original source of the information?
5. Based on this inside information you sell your prized car that you love dearly before the market drops. Six months later you find out it was just a rumor.
6. What went wrong? and why?

QUESTIONS:

1. **What is the basic type of market information needed?**
   Answer: Supply and demand information. Use VM-1.

2. **Who compiles the "backbone" of the market information system and why?** Use VM-2, 3, 4, 5.
   Answer: The United States Department of Agriculture is the backbone of the market information system. Suppliers and purchasers both need equal access to information to make the free enterprise system work.

3. **How does the USDA gather national information?**
   Answer: Scientific, sampling, farm questionnaires, phone contacts, on-farm visits.

4. **How does the USDA gather international information?**
   Answer: Weather analysis, satellite information, travelers in foreign countries, foreign newspapers, crop evaluation teams.

5. **What are three reasons the information the USDA compiles is important to farmers?**
   Answer:
   A. It is impossible to judge the national situation from local production situations since the U.S. production area is so vast.
   B. Without the USDA, the grain and livestock trade would have less information.
   C. The market would be more subject to rumors without the USDA reports.

STUDENT ACTIVITIES:

1. Using the Iowa Farm Business Association data from Lesson 1, determine if marketing has contributed to a farm being in the high profit third.

   How do you interpret this information?

   According to the way the analysis is computed, marketing has not been a major factor in profitability. Controlling costs of production has had more of an effect. It is not to say that marketing is not important but that we maybe have not done a good job in the past of marketing or that everyone markets the same way.

   Why do you feel there is potential in improving marketing even though past performance appears not to show a major contribution to profitability?

2. Brainstorm ten reasons why compiling market information is important.

3. Read Student Activity 1 on grain balance sheet and complete the answer sheet.

4. Compete Student Activity 2 on project livestock pricing.

CONCLUSION:

It is very important to have accurate and reliable information on supply and demand. Most of the information is compiled by the U.S.D.A. This information must be available to farmers as well as purchasers to allow the free enterprise system to operate. Analysis of this information provides trends and relationships with other factors that are helpful in implementing a marketing strategy.

USDA MARKET INFORMATION SYSTEM

Since the USDA information gathering system is the basic source of grain market information, let's look at the available information, where it comes from, and why it is important. Information from the USDA can be grouped into four categories: (1) estimates of U.S. grain and oilseed supplies, including production and stocks; (2) other U.S. market information, including prices, exports, reserve supplies, and related information; (3) foreign crop and demand information; and (4) economic analysis of the first three types of information.

Estimates of U.S. Grain and Oilseed Supplies

This part of the USDA system includes estimates of acreage, yield per acre, production and stock, both for individual states and for the U.S. Accurate supply information is one of the first requirements needed to accurately evaluate the price outlook for farm products. USDA crop estimation work is done by trained professionals who hold civil service positions rather than politically appointed jobs. Civil service appointments are intended to insure that political motivations do not influence estimates of farm production.

Estimates of planted and harvest acreage are developed with the use of scientific sampling procedure, farm questionnaires, phone contacts, and on-farm visits. Initial indications of planted acreage are provided in March planting intentions survey. Then in early July, estimates of acreage devoted to spring-planted crops are released. Estimated acreage planted to winter wheat traditionally has been released in December. These acreage reports provide indications of year-to-year shifts from one crop to another and provide the base for public and private estimates of production.

Monthly Crop Reports

During the growing season, USDA releases monthly reports showing the current year's potential production of major crops. These reports, as well as most other major crop and livestock reports, are developed in elaborate "lock-up" procedures to prevent premature release of the information. Specialists, working on the report enter a locked and guarded room and stay there until the report has been completed and released to the public. Information for the national reports is compiled from individual state data delivered to the "lock-up" room.

The monthly crops reports are based on information from farmer questionnaires as well as information from objective yield survey techniques. Objective yield survey procedures involve carefully applied measurements of plants and counts oaf ears or seed pods in precise areas in sample farm fields. At harvest time, these sample areas are harvested, dried, weighed, and converted to equivalent yields per acre. Thus, monthly crop reports reflect both farmers' opinions of their crop prospects and potential yields based on actual plant developments at that point in time.

USDA's monthly crop reports are heavily used by the grain trade as a guide to the price outlook. Over the years, several private crop forecasts have emerged and usually are released to clients a few days ahead of the USDA report. These private crop surveys are much less extensive than USDA procedures and use official USDA acreage data. Often their main purpose is to anticipate what the official report will show. If the USDA crop estimates differ significantly from earlier private forecasts, a price reaction is likely. If official estimates are in line with private reports, little or no market reaction to the USDA report would be anticipated.

While farmers sometimes are critical of crop reports, this source of information is important for several reasons. First, the reports give farmers an objective look at crop conditions outside their own local area. The Corn Belt, for example, covers an area nearly a 1000 miles wide and as much as 400 miles from north to south. The wheat and soybean belts cover even larger sections of the United States. In an area of this size, it is impossible to judge national crop prospects by looking only at conditions in your own local area. Second, without official estimates, the grain trade would have more information on crop prospects than farmers. This would put you at a disadvantage in marketing your products. Third, with no official figures on supplies, the market would be much more subject to rumors than they are at present.

Grain Stocks

In addition to acreage reports and monthly crop forecasts, USDA issues grain stocks reports in January, March, June, and September. These reports complete the supply picture by showing stocks on hand from previous crops. In the case of corn and other feed grains, changes in stocks during the quarter also provide indications of how much grain is being used in the domestic livestock sector. For corn, that's still the largest part of total demand. Quarterly stocks reports are therefore an important indicator of the outlook for corn prices.

Information from these reports usually is summarized in medium-sized and larger local newspapers, the Wall Street Journal, and farm radio broadcasts. Detail is available from state extension service, market advisory newsletters, and your state's crop reporting service.

Monitoring Week-to-Week Crop Conditions

In evaluating hedging and forward contracting alternatives during the growing season, it often is helpful to watch crop conditions across the Grain Belt on a week-to-week basis. USDA's Weekly

Weather and Crop Bulletin is an important tool for doing this. This report is published through the cooperation of USDA, state crop reporting service, and the National Weather Service. Each issue has a national precipitation map showing how much moisture was received during the previous week. Brief summaries of fieldwork, progress by states, crop conditions as a percent of normal, and ratings of crops by percentages that are excellent, good, fair, and poor also are included. With this information, you can determine whether crop conditions are improving, deteriorating, or holding steady in major producing states.

This same report also contains easy-to-read maps showing a 30-day precipitation and temperature forecast. In times of drought, it has a drought-index maps that can help you pinpoint how severe and how extensive such problems are. During the winter and early spring, snow-cover maps indicate whether the winter wheat crop is being protected from severe cold weather. At times, 3-month weather forecasts also are included in the report.

In addition to domestic weather and crop conditions, the Weekly Weather and Crop Bulletin has weekly highlights of weather developments in the grain belts of Europe, Australia, South America, China, and Russia. Summaries of this information often are broadcast on farm radio programs and published in farm magazines and in market outlook letters. But if you want more complete monitoring of U.S. and world crop conditions, the full report can be obtained from USDA at a very modest cost. In early 1987 it was available at a U.S. subscription price of $25 per year from NOAA/USDA Joint Agricultural Weather Facility, USDA, Washington, D.C. 20250. Checks should be made payable to U.S. Department of Commerce, NOAA.

Other U.S. Market Information

In addition to information on grain supplies, USDA and the Census Bureau provide information on export movements and domestic processing of grain. Important details of this information are published from time to time in the Wall Street Journal and in weekly USDA publication called Grain and Feed Market News, available from the Agricultural Marketing Service, Livestock and Seed Division, USDA, Washington, D.C. 20250.

Each week the USDA reports how much grain has been exported from the United States along with the amount exported during the same week a year earlier and season-to-date total exports. This series provides a week-by-week barometer of export demand and should be compared with official projections of marketing year total exports. Monthly Census Bureau reports show the amount of soybeans being processed, comparable year-earlier figures, and stock of soybeans, soybean oil and meal at processing plants ant the end of the month. This information can be used to determine whether domestic crushings are up or down from the previous year, and whether product stocks are rising or declining. If crushings are down from last year, a weak demand situation is indicated. A similar indication would be shown if soybean product stock have been rising for two or more months.

Along with these reports, USDA's monthly cattle on feed and quarterly sow farrowing reports are other indications of the domestic demand for feed grains and soybean meal. These reports provide an indication of whether domestic feed demand is increasing, decreasing, or remaining static.

In years when a grain reserve program is in effect, weekly movements of grain into and out of reserve stocks can bed an important price indicator. Heavy movement of grain into the reserve would indicate potentially higher prices later in the season. Heavy withdrawals from reserve stocks, on the other hand, could be a stabilizing or temporarily depressing influence on prices. Information on reserve stocks is compiled by USDA's Agricultural Stabilization and Conservation Service. It can be obtained from outlook letters of State Extension Service, from market advisory service and from state ASCS offices.

Marketing for Farmers, pp. 118-122

Unit 4, Lesson 2 Activity 2

ANALYSIS OF GRAIN MARKET INFORMATION

To use these sources of market information effectively, you need some way of determining the net effect on grain supplies and prices. The tool commonly used in doing this for grains and soybeans is the supply/demand balance sheet. A balance sheet is simply a way of comparing available supplies with expected utilization. Its purpose is to determine whether carryover stocks will be increasing at the end of the marketing year. If stocks are increasing, grain prices will likely decline unless offset by government policy actions. Declining carryover stocks nearly always place upward pressure on grain or soybean prices.

Grain Balance Sheets

Table 7-1 shows a typical U.S. corn balance sheet. In the hypothetical example, beginning carryover stocks of old-crop were 3,500 million bushels in the previous marketing year. Weather was favorable and the crop was large, bringing total supplies to more than 11 million bushels. Total usage of U.S. corn amounted to 7,000 million bushels, leaving ending carryover stocks at 4,101 million bushels. These stocks represent the beginning carryover for the current marketing year. They are unusually large and probably cause depressed prices in the previous marketing year.

For the current year, drought and acreage reduction programs have reduced the crop substantially below the previous season. Imports have doubled - primarily from Canada - but still represent an insignificant part of the total supply. Even with large beginning carryover stocks, total U.S. corn supplies are down 800 million bushels from the previous year. That's a strong indication average prices for the marketing year will be above the preceding year.

Projection for the three utilization categories indicate exports will increase, probably due to crop problems in major foreign grain consuming and or exporting countries and a long-term upward tend in foreign livestock feeding. Because of higher feed costs and improved cash-grain alternatives, U.S. livestock feeding is expected to decline. Processing use is expected to continue its long-term upward trend. As a result, carryover stocks are projected to decline to about four-fifths of the previous year's level.

Projections for the coming year are shown as they might appear by midsummer of the current marketing year. At that time, the projections obviously are still tentative and would need to be adjusted from month to month for changing U.S. and world crop conditions. The hypothetical balance sheet indicates U.S. and world crop prospects are favorable at this stage of the growing season. Even with an anticipated upward trend in utilization, the next season's ending carryover stocks are expected to rise modestly. Rising carryover stocks indicate the coming year's average price is likely to be modestly below the current marketing year.

Balance sheets for corn, soybeans, wheat and other grains are published periodically by USDA's Economic Research Service. The branch of USDA which publishes these projections is separate from the one which develops crop estimates and grain stocks data. Its main task is to analyze demand prospects and government programs, and to determine likely prices for major crops. Balance sheets prepared by USDA usually include projections of U.S. average farm prices. To use this information in developing a marketing plan, you first need to know how your local price differs from the U.S. average. That information can be obtained from your own local price records of previous years or from your state's extension serve.

There are several ways you might use projected season average prices in your marketing plan. Suppose your goal is to sell your crop at $.25 per bushel above the season average price. In that case, you would want to make substantial sales at times when cash or forward pricing opportunities exceed the projected season average price by at least that amount. If current prices are substantially below the projected season average price, that would be a signal to delay marketing and wait for higher prices. If prices are near the projected season average prices, it would be advisable to figure storage costs closely in deciding whether to sell the crop now or wait for a normal seasonal rise in prices.

Another way to sue the balance sheet is in analyzing the impact of changing crop conditions. Let's say that during the summer months, serious drought cuts crop projections in Table 7-1 by 515 million bushels. That amounts to a 5 percent reduction in total supplies. As a general rule, each 1 percent change in total corn supplies - with other market factors and government programs being unchanged - would tend to change the season average price by about 2 percent in the opposite direction. Therefore, a 5 percent reduction in corn supplies would be expected to boost the coming year's season average by about 10 percent above previous projections. For soybeans, each 1 percent change in total supplies would be expected to change prices by about 2.5 percent in the opposite direction, if other price-making influences remain unchanged.

These are general rules of thumb. However, you should be alert to other things that can make prices either more or less responsive. For example, if carryover stocks are already near the minimum level needed by the trade, prices will likely respond more sharply to supply changes. For corn and soybeans, minimum stocks needed to meet normal feeding, processing, and exporting activities at the end of the marketing year would be about for weeks' supply. In or example corn balance sheet in Table 7-1, that figures out to about 600 million bushels for the coming year.

With a large increase in supplies, government programs may make prices less responsive than these rules would indicates. If prices are near the loan rate, excess supplies may be taken off the market and placed under price support loans. If a reserve program exists, more grain can be attracted in the reserve through adjustments in storage payments and interest changes on reserve loans. Such actions would limit the downward pressure on prices in case of an unusually large crop.

In evaluating price prospect for corn and soybeans, you also need to consider the number of livestock being grain fed and the profitability of livestock and poultry feeding. Domestic feed is still the largest source of demand for the U.S. corn crop and is a major outlet for soybean meal. If feeding profits are strong, a given reduction in corn supplies would have a greater impact on corn prices than when feeding margins are depressed.

To evaluate the impact of large unexpected new export sales, you would first need to convert such sales from metric tons (in which they are usually reported) to bushels. A metric ton contains 36.8 bushels of soybeans or wheat, or 39.4 bushels of corn. When you've determined the total bushels of new sales, then calculate the percent of the total U.S. supply it represents. If other market factors remain unchanged, you can get an idea of the potential price impact by using the rules of thumb we noted earlier. For example, if unexpected new corn export sales equal 5 for the current season's total corn supply, you could expect the season average corn price to be about 10 percent above previous projection.

Also note that a reserve program can "short-circuit" these rules of thumb in years of short crops. At times when carryover stocks are being sharply reduced and a government reserve program is in existence, reserve release and call prices may be the main determinant of prices. Release and call price are the levels at which reserve stocks can return to commercial channels. They may sometimes pull prices to a higher level than these general rules would suggest.

You can get on USDA's mailing list for its regularly scheduled updates on grain balance sheets by writing to: Information Staff, ERS, U.S. Department of Agriculture, South Building, 14th and Independence Avenue, S.W., Washington, D.C. 20250, and requesting that your name be placed on the mailing list for World Agricultural Supply and Demand Estimates.

Marketing for Farmers, pp. 124-127

Knowledge Analyzer
Unit 4, Lesson 2

Name:

1. **What is the purpose of a grain marketing balance sheet?**

2. **If carryover stocks are increasing, then grain prices are like to do what?**

3. **What would increase carryovers?**

4. **What would decrease carryovers?**

5. **How often are balance sheets published and by whom?**

6. **What is the main task of the USDA Economic Research Service?**

7. **As a general rule, a ________ % change in total corn supplies with other market factors and government programs being unchanged, would tend to change the season average price by _______% in the opposite direction.**

8. **If the last year's corn price was $1.90 and there was a 5% reduction in corn supplies, the projected price would be _______.**

9. **As a general rule, a _______% change in total soybean supplies with other market factors and government programs being unchanged, would tend to change the season average by ______%.**

10. **If last year's soybean price was $5.00 and there was a 6% increase in soybean supplies, the projected price would be ______.**

11. **How should you interpret "general rules of thumb?"**

12. **Who should you write for updates on grain balance sheets?**

Key for Knowledge Analyzer

1. Its purpose is to determine if carryover stocks will be increasing or decreasing at the end of the marketing year.
2. Grain prices will likely decline unless offset by government policy actions.
3. Weather, usage, government programs, acres planted.
4. Weather, usage, government programs, acres planted.
5. Periodically by the USDA Economic Research Service which is separate from the one that develops crops estimates and grain stock data.
6. Its main task is to analyze demand prospects and government programs and to determine likely prices for major crops.
7. As a general rule, a one-percent change in total corn supplies with other market factors and government programs being unchanged, would tend to change the season average price by two-percent in the opposite direction.
8. $2.09
9. As a general rule, a _1_% change in total soybean supplies with other market factors and government programs being unchanged, would tend to change the season average by _2.5_%.
10. $4.25
11. They are guidelines that should be interpreted in light of other known information.
12. Information Staff, ERS, USDA, South Building, 14th and Independence Avenue, S.W., Washington, D.C. 20250

EXPORT DEMAND

EXPORT DEMAND IS A KEY INDICATOR FOR PRICES ON AGRICULTURAL PRODUCTS

INFORMATION ABOUT FOREIGN DEMAND PRODUCTION PROSPECTS IS GATHERED BY USDA THROUGH IT'S NETWORK OF AGRICULTURAL CONSULS LOCATED IN FOREIGN COUNTRIES, AS WELL AS WORLD WEATHER, DATA, AND THROUGH FOREIGN GOVERNMENT REPORTS.

THE USDA ALSO SENDS OUT SPECIALIST PERIODICALLY TO EVALUATE CONDITIONS IN IMPORTANT FOREIGN COUNTRIES AND CONSUMPTION AREAS.

BACKBONE OF MARKET INFORMATION SYSTEM

USDA'S system of estimating crop and livestock production and monitoring world agriculture form the backbone of our market information network.

Major purpose is to provide objective unbiased information farmers can use in production and market planning.

To make the free enterprise system work effectively, buyers and sellers both need equal access to information on supply and demand

Publicly funded and disseminated

World Crop Estimates

USDA also publicizes monthly crop estimates during the growing season, containing information on;

Estimates of world grain stocks.

World grain production.

By countries and regions and types of grain.

Also included are projections of world consumption, export, and imports.

The full report World Crop Estimates is available from FAS, Information Service, USDA, South Building, Washington, DC. 20250.

Crop Information from Russia and China

Inadequate drop information from Russia and China is probably the biggest limitation in evaluating foreign demand for U.S. grains and oil seeds.

Unlike most western nations, grain importing in each of these countries is done entirely by a single government agency. For competitive reasons, these agencies usually do not publish advanced estimates of their grain crops until most of their purchasing has been completed.

USDA estimates are based upon weather analysis, reports from travelers who have visited the grain area, soviet and chinese newspapers, and U.S. evaluation teams when possible.

Key Foreign Countries

Soybean Competitors

Argentina-	Soybeans different growing season.
Brazil-	Soybeans different growing season.
Malaysia-	Palm Oil
Canada-	Rape seed oil

Feed Grain Competitors

Argentina-	Corn different growing season.
South Africa-	Corn different growing season.
Australia-	Oats, Barley different growing season
Canada-	Oats, Barley
France-	Some years China

Wheat Competitors

Canada
Argentina
England
France
Spain occasionally
Turkey
India

UNIT 4: Sources of Market Information and Use of Marketing Advisory Services

LESSON 3: Using a Marketing Advisory Service.

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Identify types of marketing services.
2. Identify who's responsibility marketing is.
3. Evaluate marketing services.

MATERIALS/REFERENCES NEEDED:

1. Marketing for Farmers, p. 127

VISUAL MASTERS:

VM-1 Services Provided By Advisory Services
VM-2 Advisory Services Can Be Helpful
VM-3 If You Subscribe To An Advisory Service

INTEREST APPROACH:

Read and discuss Activity 1. What is the "bottom-line" message of this article? (The responsibility of marketing is yours alone.) Do you agree with this statement?

QUESTIONS:

1. **What is the role of marketing advisory services?**
   Answer: Advisory services are a tool to assist farmers in implementing marketing strategies. The final responsibility for marketing is the farmers.

2. **What types of services are provided by marketing advisory services?** Use VM- 1, 2, 3.
   Answer: Newsletters, computer data bases, seminars, on-farm consulting, telephone hot-lines, individualized marketing plans.

3. **What criteria can be used to evaluate services?**
   Answer: Accuracy, speed, interpretation, results, trust, etc.

STUDENT ACTIVITIES:

1. Read "Marketing Responsibility" (Activity 1) and answer questions.

2. AgriData (Ag Ed Network) subscribers should consider using the following lessons: Finding Market Advice (HS619), Using Advisory Information (HS620), and Applying Advisory Information (HS621).

CONCLUSION:

Marketing advisory services are helpful and needed. There is so much marketing information that it is difficult for farmers to understand it all. Thus, there is a need for specialists. Marketing authority can even be delegated to services but this responsibility remains with the producer.

Marketing Responsibility

It's mid-morning in early December. You've just come into the house to warm yourself and to gulp down a cup of coffee before returning to work on that offset disc that's been needing repairs all year. Hundreds of miles distant in Chicago, what seems like controlled chaos has just begun for the day. In a huge room men push, yell, and make frantic hand signals.

Amazingly, out of that frenzied activity new commodity prices are instantly spewed forth to wide spread locations. Their implications are pondered by countless thousands of people. "February cattle, off 30--March corn, up two and a half."

In another city, a handful of executives gather in a board room. Important decisions are to be made. From your kitchen table, all that activity seems so distant, so unrelated to this gray morning and the work you have set out to do today. Yet decisions made in that board room and that noisy hubbub in Chicago are helping to determine the income you will earn for a full year's work.

A light snow begins to fall later that evening. That's good, the wheat can use it. At the same time, far away in Brazil, the hot sun is beating down on fields of soybeans starved for moisture. This situation will soon begin affecting prices in Chicago and at your local elevator. In turn, the decision you make on your own farm will be influenced. That back 80 may will end up in beans next spring because of what's happening in the world's southern hemisphere.

****

Farm marketing has changed. In the early 1970's agriculture found itself off and running pell-mell in a new area of market volatility. New, more powerful forces pushed and pulled price charts into jagged lined. As world demand expanded and farm production raced to keep up, global weather and international politics began to profoundly influence conditions on the farm. The government tried to adapt its farm programs to the new environments, often with limited success.

Then in the early 1980's, world market conditions changed again as global debt problems, an upward surge of foreign and domestic grain production and exchange rate volatility pushed prices down to levels of 10 or 15 years earlier. New tools emerging in the marketing scene including commodity options, minimum-price contract and PIK certificates.

These conditions demanded something more. Being good at farming or ranching was no longer enough. Simply producing and selling your products could easily get you caught in the "sawtooth" of prices that could change more in one week than a full season in years past. Terms like "marketing strategy" and "risk management" were heard more frequently.

Farm marketing is a term that covers so much that it's difficult to pin down a meaning. But for you, the meaning can be simplified. For you, marketing means negotiating the best deal possible for what you do as an agricultural producer. Your labor, skill, money, talents...all these things that go into putting grain in the bin or livestock on the truck are on the line.

The marketing job includes making those planting decisions next spring, as well as determining how and when to sell the crop. It requires that you have some understanding of what goes on in the large room in Chicago and how it affects you. It means that you should learn all you can about the network of interrelated factors that determine farm prices. The job is your responsibility alone.

What is the one major message of this article? State what it is and your reason below.

Do you agree or disagree with this message? Why or why not?

Marketing for Farmers, pp. vii - viii

Services Provided by Advisory Services

Weekly Newsletter

Recorded "Hotline messages with commentary on daily market developments and Market recommondations"

Seminars

Telephone Consultation

On Farm Consultation

Computer Networking

Transmitted Data to Monitor

Advisory Services Can Be Helpful

But remember you're the one who has

- to pay the bills

- to live with the financial risk

- to meet the on-going needs of your business.

The final decision must be made

by you based on your

individual operation.

Unit 4 4.32
Lesson 3
VM 3

If You Subscribe To An Advisory Service

Be aware that you need to adjust their recommendations

To your individual business situation and financial risk-bearing ability.

UNIT 5: World Export Markets

LESSON 1: Trends in World Agriculture Commodity Trade.

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Identify what economic factors influence trade with other nations.
2. Relate the value of the dollar on the world market to the amount of U.S. Agricultural products imported and exported.
3. Compare and contrast economic conditions in the United States with Japan, EEC, Latin America, and Canada.
4. Identify what new developments will influence agriculture trade in the future.

MATERIALS/REFERENCES NEEDED:

1. World Food Trade And U.S. Agriculture-October 1987 (6th annual edition, pp. 40-52).
2. Life Force: Survival' 82, Part II The Farm Economy (7511) (28 minute film) Extension
3. Facts on Iowa Agriculture prepared by Communications Division, Iowa Farm Bureau

VISUAL MASTERS:

VM-1	FIGURE 35. Value of U.S. Agriculture Exports by Commodity, 1972-1986 Calendar Year
VM-2	FIGURE 40. U.S. Agricultural Export Percentages to Selected Destinations, 1976-77 and Projected 1985-86 Fiscal Years
VM-3	TABLE 19. Composition of U.S. Agricultural Exports by Type of Commodity, 1976-77, 1980-81, and 1985-86 in Billions of Dollars
VM-4	FIGURE 39. Value of U.S. Agricultural Exports by Selected States in Billions of Dollars, Fiscal Years 1982-83 through 1985-86
VM-5	TABLE 20. Value of U.S. Agricultural Imports by Commodity Groups in Billions of Dollars.
VM-6	FIGURE 43. U.S. Corn Exports by Destination, October-September 1964-65 to 1986-87.
VM-7	FIGURE 45. U.S. Soybean Exports by Destination, October-September 1964-65 to 1986-87.

VM-8 FIGURE 49 U.S. Beef and Veal Exports by Destination, 1977-78 through 1985-86 October-September Fiscal Years.
VM-9 FIGURE 50 U.S. Pork Exports by Destination, 1977-78 through 1985-86 October-September Fiscal Years
VM-10 FIGURE 52 U.S. Chicken and Turkey Exports by Major Destinations, 1977-78 through 1985-86 October-September Fiscal Years.

INTEREST APPROACH:

1. Bring small quantities of breakfast cereals made from the following grains: corn, oats, rice, and wheat. Ask students which of these four cereal grains do we have to import in order to meet our domestic demands. Point out that oats are imported. We import oats from Sweden and Russia. Ask students what factors have caused the demand for oats.

2. Use current copies of "Facts On Iowa Agriculture" prepared by Communications Division, Iowa Farm Bureau. Ask students how agriculture commodity production in Iowa has changed over the past 50 years. Changes include: decrease in oat production, an increase in soybean production, decrease in dairy production. Specific students may know how production on their farms have changed. Factors would include: broadened world markets, improved crop varieties, advanced farming techniques, government programs, and change in demand for commodity. Ask what Iowa agriculture commodity production is directly effected by world market demand. Use Facts on Iowa Agriculture.

3. Using a world map, have students identify potential exporting and importing nations. Ask students specific criteria about each nation to determine if it is an importing or exporting nation. Some criteria could include: population, economy, land, climate, agriculture commodity subsides, advanced agronomic practices implemented. Ask students how an importing nation determines which country it will purchase commodities from? Point out the lowest world price available will determine where the commodity is purchased. Ask what factors would determine lower price. Factors would include: government subsidies, amount of commodity surplus or shortage, shipping charge, and currency exchange rate. Ask students how a decrease in the value of the U.S. dollar would effect U.S. agriculture exports. Note that our exports would increase.

QUESTIONS:

1. **Exports and imports of U.S. commodities fluctuate each year due to many factors. Ask the students what has**

happened to the dollar value of the U.S. agriculture trade balance since the fiscal year 1981-82? (Use VM-1, 2, 3 to explain U.S. ag exports without respect to imports.)
Answer: A drop of $20.9 billion from the record level of $26.3 billion to $5.4 billion in 1985-86.

2. **It is important for the student to realize the many factors involved with foreign trade. Through brainstorming from the class have the students list what factors determine whether a country will import our products?**
   Answer: A) Countries own economy and ability to purchase, B) Countries own production, C) Value of currency.

3. **Many students have traded items with class mates such as baseball cards relate these activities to why they traded with that individual to what can the U.S. do to sustain trading relationships with their trading partners?**
   Answer: If one country is to export goods to a country it should also import goods from that country.

4. **Have the students discuss which states they think are our major agricultural producers and the commodities that are produced. Using (VM-4) list the top four states that export the most agricultural products in value and the product they produce.**
   Answer:
   1. California-fruits, vegetables, cotton, nuts, grain and livestock
   2. Illinois- coarse grains, soybeans, soybean products, and livestock
   3. Iowa- coarse grains, soybeans, soybean products, and livestock
   4. Kansas (tied)- coarse grains, soybeans, soybean products, and livestock
   4. Texas (tied)-fruits, vegetables, cotton, nuts, grain and livestock

5. **Have the students list several items that the U.S. imports. With the responses received ask the students which are complementary imports? Supplementary imports? Use (VM-5) to show the commodities that are imported.**
   Answer: Complementary imports do not compete with domestic production.
   Supplementary imports are those products that directly compete with domestic production.

6. **Have students interpret (VM-5) by asking approximately what portion of our agricultural imports are made up of complementary goods?**
   Answer: One-third

7. **Using (VM-5) have the students determine which product amounts to 56% of all complementary products imported?**

Answer: Coffee

8. **New technology has decreased some of our exports, have the students determine what U.S. technology developments have decreased U.S. sugar imports?**
Answer: The use of high fructose corn sweetner for use in soft drinks.

9. **Using (VM-6) showing corn exports, ask the students the most dramatic decrease in corn exports came from decrease sales to which country?**
Answer: Corn export shares to the EC has dropped 32.2%.

10. **Using (VM-7) have the students determine which area of the world imports most of our soybeans and soybean meal?**
Answer: European Community

11. **Soybean oil has developed several competitors in the world market have the students list six products that compete with soybean oil.**
Answer: Butter, lard, sunflower oil, cottonseed oil, rapeseed oil, peanut oil, palm oil, and coconut oil

12. **After answering the previous question have the students brainstorm ways in order to continue the upward trend in exporting soybean oil, what needs to be done to stay competitive?**
Answer: A) Keep priority of exporting to developing nations B) Create new products

13. **Have the students list several problems that are occurring around the world today and relate it to what global problems will hold U.S. grain exports down?**
Answer: Global debt problems, strong foreign competition, and slower economic growth rates compared to the 1970's.

14. **Although wheat is not a great export of Iowa have the students determine what four factors may help stimulate some growth in wheat and coarse grains exports?**
Answer: Export PIK, foreign production down trends, increased global population, and economic growth.

15. **Using (VM-8, 9) have the students determine which two countries import the most beef, pork and poultry.**
Answer: beef and pork: Japan and Canada, poultry: Canada and Mexico.

16. **Have the students list several changes in the beef industry over the past 5 to 10 years and explain what will the future growth of U.S. beef exports depend on?**
Answer: They will depend strongly on trade negotiations to ease import trade barriers in Japan, as well as other nations.

17. **World trade has been decreasing in recent years right along with the fall in U.S. exports, list the following commodities on the board and have the students explain what has happened to the U.S. market share in each of the major export categories since fiscal year 1981-82?**
    Answer:
    A. Wheat (declined approximately 15%)
    B. Coarse grains (declined approximately 5%)
    C. Soybeans (declined approximately 15%)
    D. Soybean meal (declined approximately 5%)
    E. Soybean oil (declined approximately 10%)
    F. Beef and veal (increased slightly)
    G. Pork (declined approximately 3%)
    H. Poultry meat (declined approximately 8%)
    (Livestock numbers are on a calendar year basis)

STUDENT ACTIVITIES:

1. Have the students read pages 40-52 of the World Food Trade and U.S. Agriculture, 1960-1986 in order to answer the questions in lesson one.

2. Divide students into groups of two to four. Have groups draw from the countries below. Have students gather the information from the resource room and report back to class. After the reports are given stage a mock trading session between groups. List economic factors as the trades occur. At the end of the trading session have students give opinions on the future of world trade and how it relates to their own settings. (Hand out HO-1 for the students to work from)

3. Have students construct a bulletin board that illustrates the different countries and products imported and exported.

4. Have students bring in different agricultural commodities and decide where the commodities could end up through exports and which country might compete with us and why?

CONCLUSION:

Conclude the lesson by summarizing the following:
1. U.S. exports partially depend on a low dollar value in relation to the foreign currency of a nation.
2. Our major trading partners are EEC and Japan, but new markets are developing in the third world nations.
3. Many supplementary goods are imported into the U.S. for political reasons and continued trade.
4. Without major world importers, much of America's Agricultural Industry would shut down and an enormous number of jobs would be lost.

STUDENT ACTIVITY HO-1

COUNTRY	IMPORTS	EXPORTS	CURRENCY	GOV'T PROGRAM
CANADA				
*EEC				
JAPAN				
LATIN AMERICA				
U.S.				
SOVIET UNION				
BRAZIL				
ARGENTINA				

***EEC: Britain, Iceland, Denmark, Belgium, Netherlands, Italy, Greece, Portugal, Spain, France, W. Germany, Luxembourg**

KNOWLEDGE ANALYZER - TRENDS IN WORLD AGRICULTURE
UNIT 5, LESSON 1

Name:

1. Which is one factor that will determine whether a country will import our product?
   A.) Lack of government subsidies
   B.) Surplus of U.S. Commodity
   C.) Government deficit
   D.) Value of U.S.Currency

2. How can new product development enhance our ability to better our trade with other nations?

3. What are complementary products?

4. Why does the United States import oats?

5. Identify four products that compete with soybean oil in the world oil market?

6. Government commodity subsidies (in reference to set aside acres) effect which of the following?
   A.) Supply of the commodity
   B.) World demand for product
   C.) Quantity exported
   D.) Increased use of substitutes

7. Presently, what countries purchase a large majority of agriculture products from the U.S.?

8. Which product amounts to 56% of all complementary products imported?

9. What five states export the most agricultural products in value?

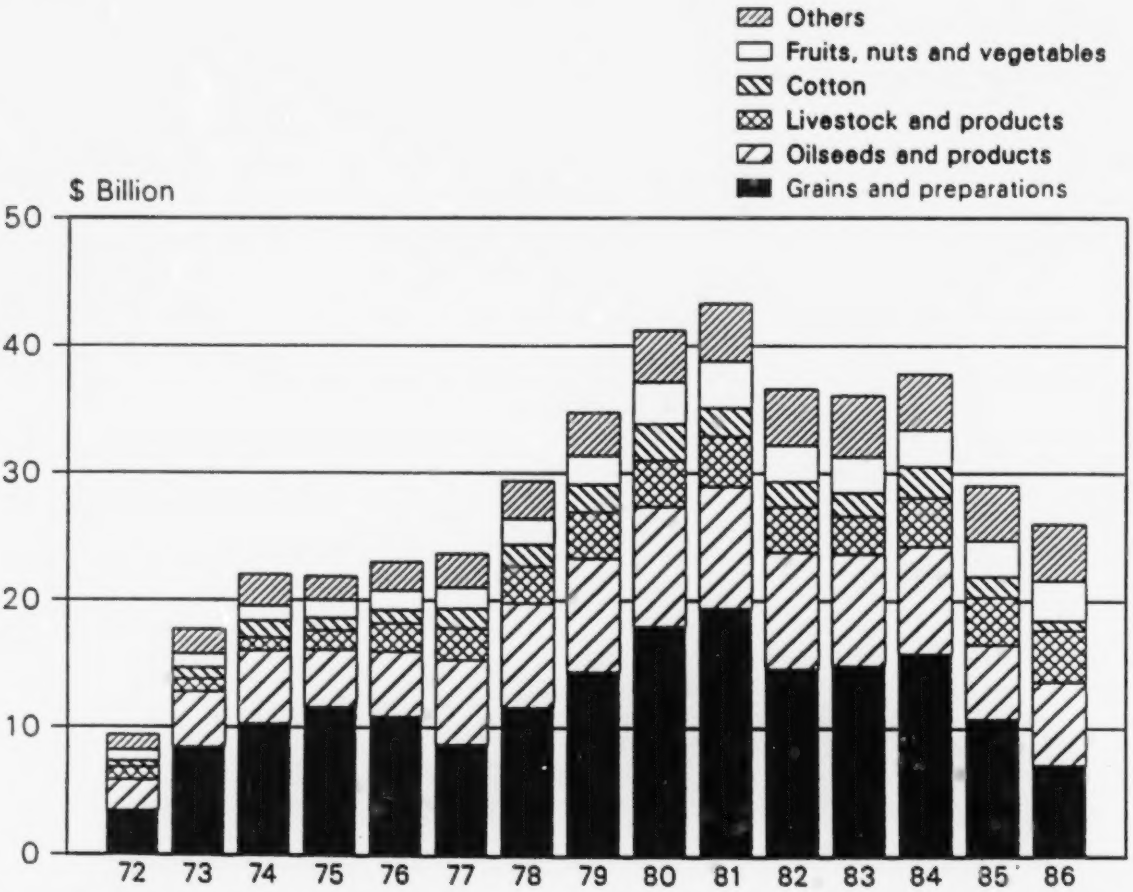
10. Describe the current economic condition in the following countries: Japan, Latin America, and Canada. Who is their largest trading partner?

KEY - KNOWLEDGE ANALYZER
TRENDS IN WORLD AGRICULTURE

1. D
2. (A. Provide needed products to export nations)
   (B. Replace imports)
3. Complementary products do not compete with products in the market place.
4. (A. High human consumption)
   (B. Fewer acres planted)
5. Any of the following:
   Palm oil
   Sunflower seed oil
   Peanut oil
   Lard
   Coconut oil
   Cotton seed oil
   Rape seed
   Butter
6. A
7. EEC and Japan
8. Coffee
9. California, Illinois, Iowa, Kansas & Texas
10. Consider current economic standards at test time

Value of U.S. Agriculture Exports by Commodity

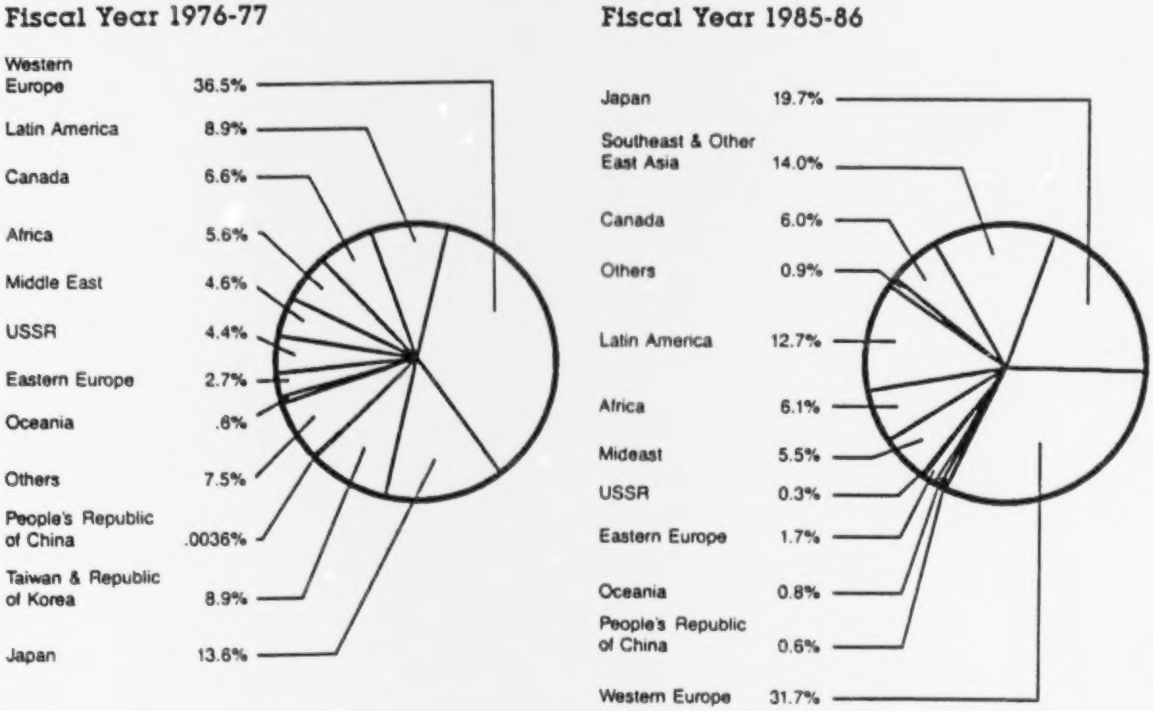
Figure 35. Value of U.S. Agricultural Exports by Commodity, 1972-86 Calendar Years.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), January-February 1987 and various other issues. Livestock excluding poultry and dairy products.

U.S. Agricultural Export Percentages to Selected Destinations

Figure 40. U.S. Agricultural Export Percentage Shares to Selected Destinations, 1976-77 and Projected 1985-86 Fiscal Years.



Source: Personal communications with officials of U.S. Department of Agriculture, Economic Research Service.

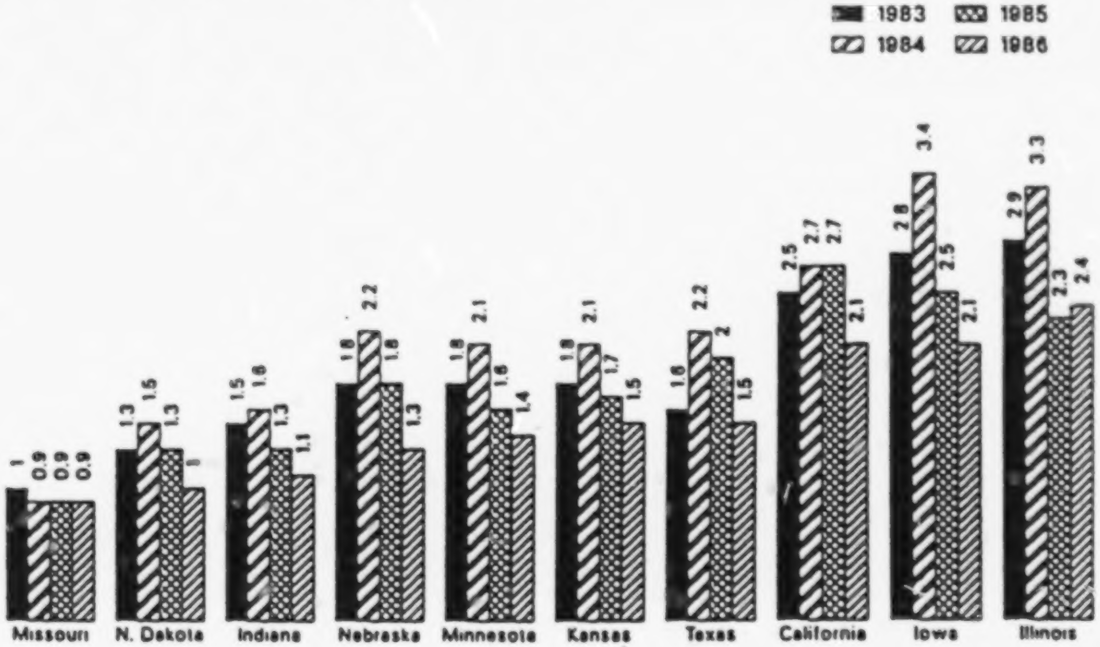
Composition of U.S. Agricultural Export by Type of Commodity

Table 19. Composition of U.S. Agricultural Exports by Type of Commodity, 1976-77, 1980-81, 1984-85, and 1985-86 in Billions of Dollars.

	October-September Fiscal Years				Percentage of 1985-86
Commodity Group	1976-77	1980-81	1984-85	1985-86	Total Exports
Feed grains	5.39	10.40	6.79	3.75	14.2
Oilseeds	4.64	6.98	4.32	4.39	16.7
Oilseed meal	0.97	1.67	0.85	1.13	4.3
[illegible]etable oils	0.77	1.10	1.02	0.75	2.8
Wheat and wheat products	3.05	8.05	4.53	3.55	13.5
Rice	0.69	1.54	0.68	0.65	2.5
Meat and meat products	0.61	0.99	0.91	1.01	3.8
Hides and skins	0.80	1.00	1.32	1.46	5.5
Dairy products	0.17	0.24	0.41	0.43	1.6
Poultry and poultry products	0.30	0.77	0.39	0.46	1.7
Other animals and animal products	0.77	1.11	1.04	1.01	3.8
Cotton	1.54	2.23	1.95	0.68	2.6

Value of U.S. Agricultural Exports by Selected States

Figure 39. Value of U.S. Agricultural Exports by Selected States in Billions of Dollars, Fiscal Years 1982-83 through 1985-86.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States* (Washington, D.C.), March-April 1986 and various other issues and personal communications with officials of U.S. Department of Agriculture, Economic Research Service.

Value of U.S. Agricultural Imports by Commodity Groups

Table 20. Value of U.S. Agricultural Imports in 1975-76, 1983-84, 1984-85, and 1985-86 October-September Fiscal Years by Commodity Groups in Billions of Dollars.

Product	1975-76	1983-84	1984-85	1985-86	Percent Change 1975-76 to 1985-86
Complementary Imports:					
Cocoa and chocolate	0.60	1.06	1.29	1.19	+98
Coffee	2.39	3.30	3.24	4.40	+84
Rubber	0.47	0.85	0.68	0.61	+30
Tea	0.09	0.19	0.18	0.14	+56
Bananas and plantains	0.26	0.67	0.75	0.74	+185
Drugs	0.11	0.20	0.20	0.18	+64
Others	0.28	0.41	0.43	0.54	+93
Total complementary imports	4.21	6.68	6.78	7.80	+85
Supplementary Imports:					
Dairy products	0.26	0.76	0.76	0.79	+204
Hides and skins	0.20	0.22	0.24	0.20	0
Meat and meat products, excluding poultry	1.44	1.93	2.21	2.25	+56
Poultry and poultry products, excluding eggs	0.09	0.09	0.08	0.09	0
Other animal products and animals	0.33	0.92	0.86	0.96	+191
Total animals and animal products	2.31	3.92	4.15	4.28	+85
Fruits, nuts, vegetables, and products	0.88	2.28	2.49	2.80	+218
Sugar and products	1.35	1.46	1.28	1.00	−26
Alcoholic beverages	0.43	1.51	1.55	1.78	+314
Oilseeds and products	0.54	0.80	0.78	0.64	+19
Grains, grain products, and feed	0.23	0.53	0.60	0.67	+191
Tobacco	0.28	0.56	0.56	0.61	+118
Others	0.30	1.17	1.55	1.30	+333
Total supplementary imports	6.31	12.24	12.96	13.07	+107
Total agricultural imports*	10.51	18.92	19.74	20.88	+99

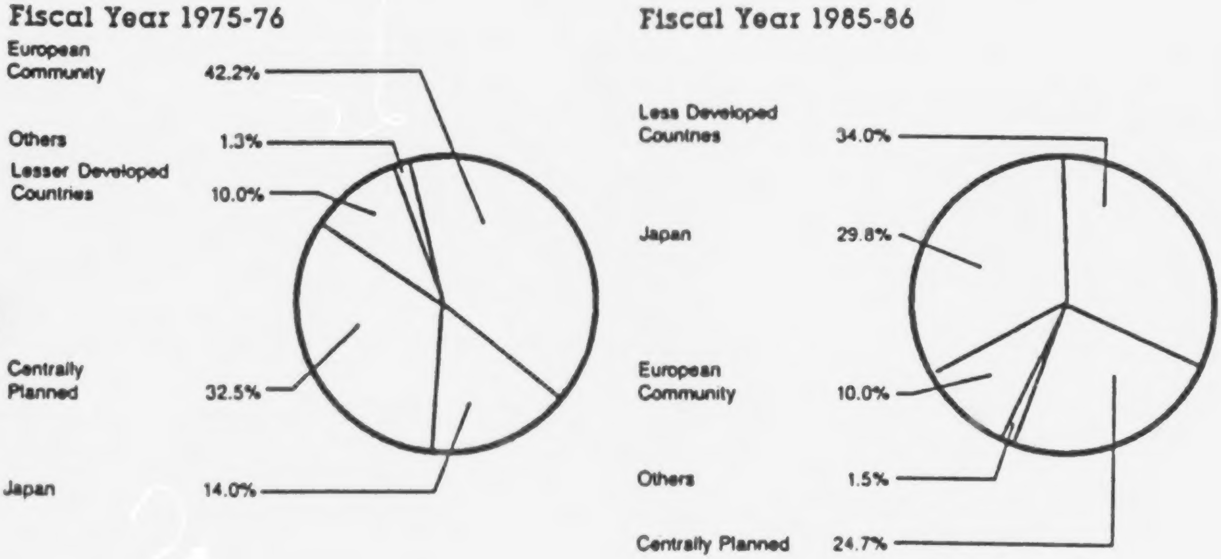
Sources: U.S. Department of Agriculture, Economic Research Service, *Foreign Agricultural Trade of the United States*, November-December 1986, November-December 1985, November-December 1984; and November 1977.

*Totals may not add due to rounding.

Unit 5
Lesson 1
VM 6 5.14

U.S.Corn Exports by Destination

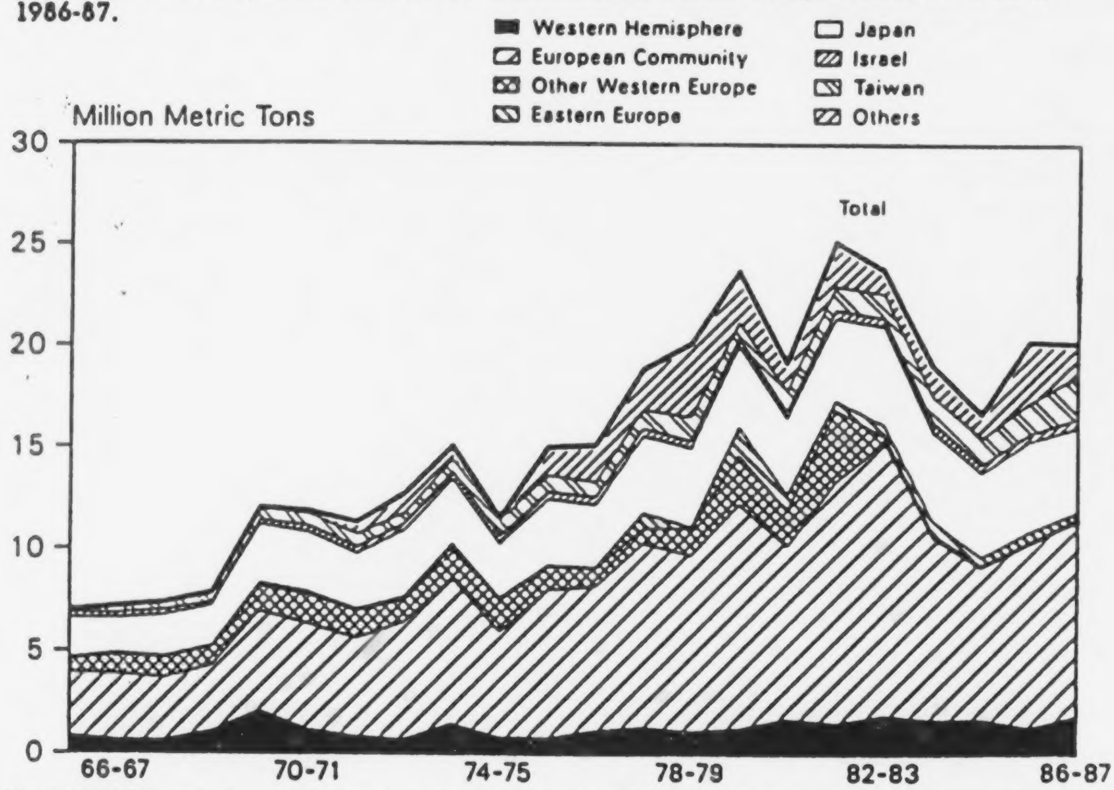
Figure 42. U.S. Corn Export Percentage Shares to Selected Destinations, October-September 1975-76 and 1985-86.



Source: U.S. Department of Agriculture, Foreign Agricultural Service, *Foreign Agriculture Circular, Grains* (Washington, D.C.), FG 37-82, December 1982 and Agricultural Marketing Service, *Grain and Feed Market News* (Independence, Mo.), various issues. Lesser developed countries include rapidly and moderately developing nations (excluding Greece, Spain and Portugal) and other developing nations.

U.S. Soybean Exports by Destination

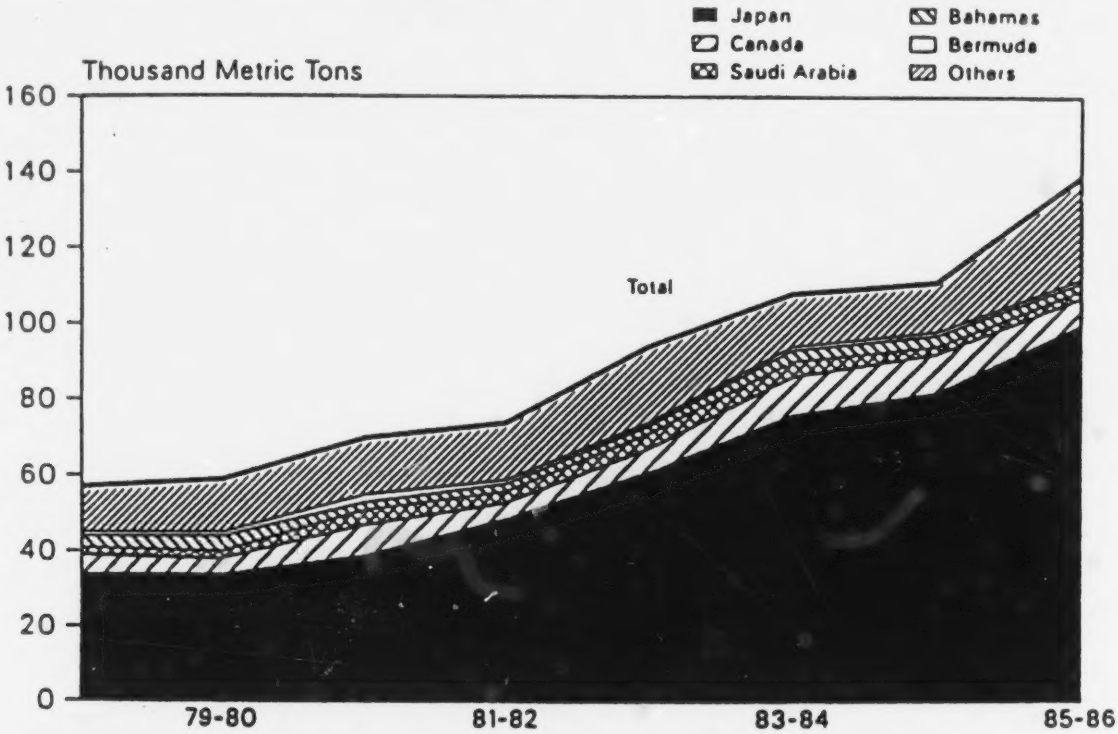
Figure 45. U.S. Soybean Exports by Destination, October-September 1964-65 to 1986-87.



Note: 1986-87 exports are projected using the October 1986-March 1987 percentage change from a year earlier.
Source: U.S. Department of Agriculture, Agricultural Marketing Service, *Grain and Feed Market News* (Independence, Mo.), various issues, and *Grain Market News* (Independence, Mo.), various issues.

U.S. Beef and Veal Exports by Destination

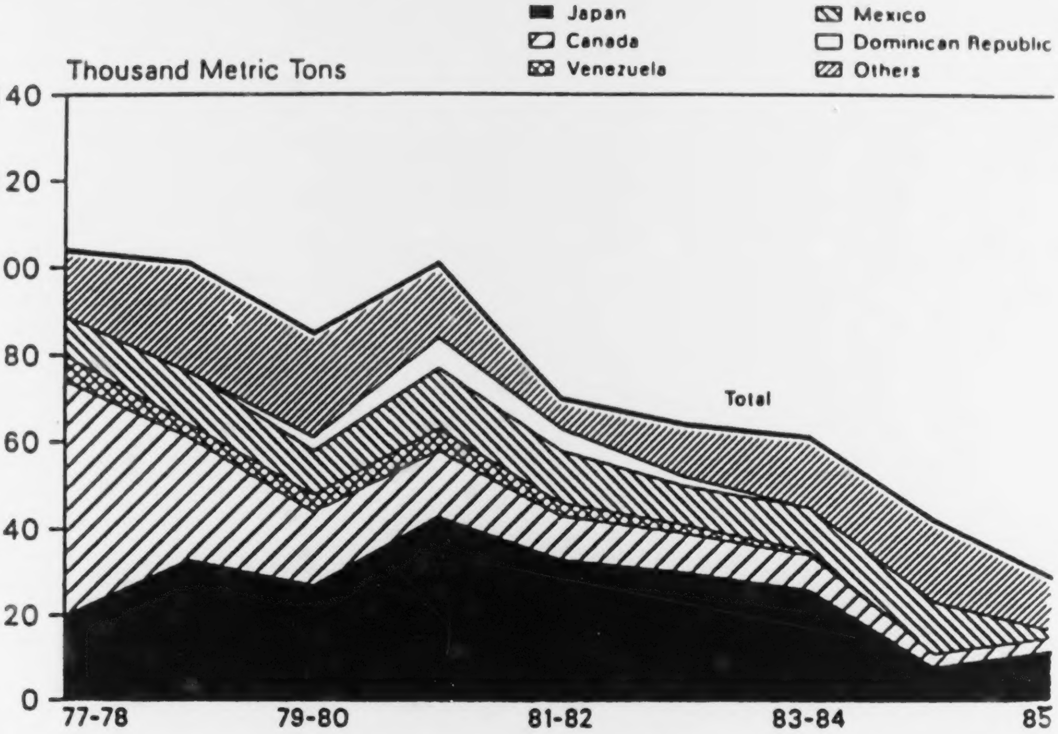
Figure 49. U.S. Beef and Veal Exports by Major Destinations, 1977-78 through 1985-86 October-September Fiscal Years.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agriculture Trade of the United States* (Washington, D.C.), November-December 1986 and various other issues.

U.S. Pork Exports by Destination

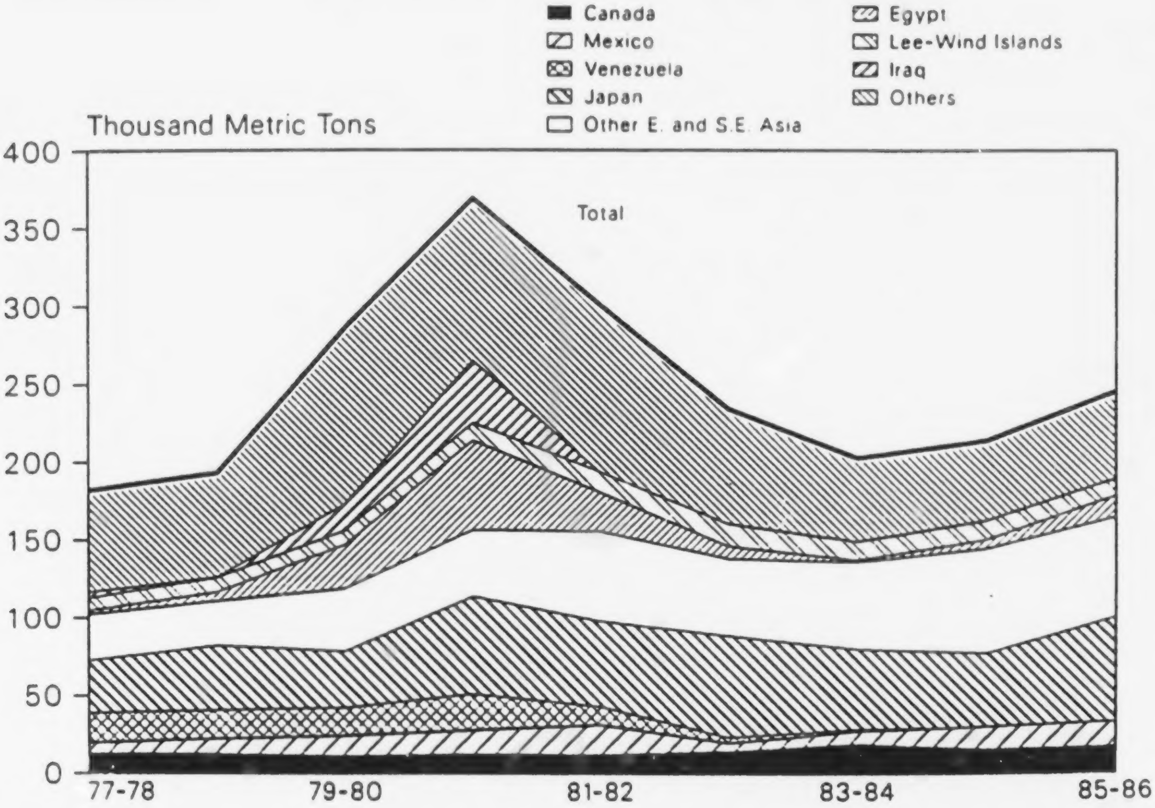
Figure 50. U.S. Pork Exports by Major Destinations, 1977-78 through 1985-86 October-September Fiscal Years.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agriculture Trade of* *United States* (Washington, D.C.), November-December 1986 and various other issues.

U.S. Chicken and Turkey Exports by Destination

Figure 52. U.S. Fresh and Frozen Chicken and Turkey Exports by Major Destinations, 1977-78 through 1985-86 October-September Fiscal Years.



Source: U.S. Department of Agriculture, Economic Research Service, *Foreign Agriculture Trade of the United States* (Washington, D.C.), November-December 1986 and various other issues.

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UNIT 5: World Export Markets

LESSON 2: What countries are major exporters/importers of the major ag commodities such as corn, soybeans, wheat, cattle, hogs?

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Identify the commodities the U.S. exports.
2. List the countries that the U.S. exports to.
3. Determine the value of exports from the U.S.
4. Understand why exports markets change.
5. Identify the countries that compete with the U.S.

MATERIALS/REFERENCES NEEDED:

1. World Food Trade and U.S. Agriculture, October, 1987 (6th annual edition, pp. 40-52)
2. The New State of the World Atlas, Kichon and Segal, Simon & Schuster, New York, 1984
3. Principle of Field Crop Production, Martin, Leonard & Stamp, Macmillan Publishing Co., Inc., 1976

VISUAL MASTERS:

VM-1 TABLE 19. Composition of U.S. Agricultural Exports by Type of Commodity, (VM-3, Unit 5, Lesson 1)
VM-2 FIGURE 40. U.S. Agricultural Export Percentage Shares to Selected Destinations, (VM-2, Unit 5, Lesson 1)

INTEREST APPROACH:

Give each student ten bags of various grains and $10 of play money. Also give each student a slip of paper telling them what they are trying to trade for. Explain they can't tell what they are trading for and also assign each student a different country he or she will be called. Also tell each student they can not talk to one another as they are not from the same country. Give the game about 15 minutes to proceed. At the end have each student tally up and find out who won. Then have each student tell what they were trying to get. Give a prize to the most successful trader.

QUESTIONS:

1. **What type of commodities does the U.S. export?**
   Answer: Corn, wheat, soybeans, soybean products, beef, veal, pork, cotton, fruit, nuts, and vegetables among others.

2. **Who are major purchasers of U.S. agricultural products?**
   Answer: Mexico, Western Europe, including EEC, Eastern Europe, South Korea, other Asian, Mideast, Africa, Japan, Canada, other Latin American countries.

3. **How much did we export to other countries for 1985-1986?**
   Answer: World Food Trade & U.S. Agriculture: p. 40, table 19

4. **In what portion of the U.S. are the majority of the agricultural exporting states located?**
   Answer: p. 40. In the midwest, where a majority of our grain is grown.

5. **What part of the world receives a majority of the wheat and corn exported from the U.S.**
   Answer: P. 45, fig. 41 and 42

STUDENT ACTIVITIES:

1. Provide a slip of paper with the name of a commodity that is exported on it to each student. Have the students in turn draw pictures representing the commodity and have the rest of the students tell what commodity they are representing.

2. Give the name of a major importing country to each student. With a colored pin have the students locate each country on a map and have them calculate the distance from their home town.

3. Give each group of students a list of how much of each commodity we export from the U.S. Have the students prepare charts explaining how much we export. Make visuals of the charts and have the student explain each chart.

4. Assign each student a different country. Have the student study the country and report to the class what the country exports. Then have the class discuss what that mean to the U.S.

5. Invite a local commodities broker in to discuss exports of grain and livestock and the implications the world market have on local prices received.

CONCLUSION:

As a group have the students prepare a bulletin board on global world exports. Have them use the information provided in class as the basis for the bulletin board.

KNOWLEDGE ANALYZER
(Unit 5, Lesson 2)

NAME:

1. Which commodity does the U.S. not export?
   A. Corn
   B. Fruit
   C. Coffee
   D. Wheat

2. Of the following commodities, which commodity grosses the most dollars in exports?
   A. Oilseed
   B. Grain
   C. Tobacco
   D. Meat and meat products

3. List three countries that purchase U.S. exports.

4. List three countries that compete directly with U.S. exports.

5. Export markets change because of:
   A. Exchange rate
   B. Supply
   C. Change in government
   D. Demand
   E. All of the above

Key for Knowledge Analyzer

1. c. coffee
2. b. grain
3. Mexico, EEC, Eastern Europe, South Korea, Africa, Latin America, Japan, Canada, and USSR
4. Canada, Australia, Argentina, South Africa, Thailand, and USSR.
5. All of the above.

UNIT 5: World Export Markets

LESSON 3: Foreign Exchange Rates and Trades

OBJECTIVES:

Upon completion of this unit, the students will be able to:

1. Define what an exchange rate is?
2. List the factors that affect a nation's exchange rate.
3. Describe how exchange rates influence prices of domestic crops grown in Iowa.
4. Identify other nations whose exchange rate fluctuates in relation to the worth of the U.S. dollar.

MATERIALS/REFERENCES NEEDED:

1. Exchange Rates and the International Monetary System. Michigan State University, East Lansing, Mich. # 39
2. Exchange Rates VHS film. Iowa State University Film and Video Collection, 1984-86. ISU film #S52082H
3. Play money, HO-1

VISUAL MASTERS:

VM-1	Table 1-Selected Exchange Rates, 9/28/84
VM-2	Table 2- U.S. Balance of Goods and services.
VM-3	Fig 2-Inflation Rates (as measured by consumer prices)
VM-4	Fig 1-Exchange Rate Indexes 1970-1983)

INTEREST APPROACH:

Bring in various play money and a small amount of any agricultural commodity (apples, oranges, soybeans, corn, etc.). Distribute the commodities and money to students. Appoint values to the commodities and set up a table for exchange rates. Have students purchase and sell different commodities using the play money. When they quit the exercise, ask students to equate how much money they have in U.S. dollars. Use VM-1 or obtain up-to-date figures to explain exchange rates.

QUESTIONS:

1. **What do foreign purchasers generally acquire to buy U.S. goods?**

Answer: To make purchases from the U.S., foreign residents must generally acquire dollars.

2. **What two major items must be considered when engaging in international transactions?**
   Answer: The foreign currency price of the item and the price of the foreign exchange instrument.

3. **How is the exchange rate defined?**
   Answer: The exchange rate is the number of units of foreign exchange which can be traded for a U.S. dollar.

4. **What three major factors contribute to the fluctuation in the demand for different currencies? What relationship do these factors have to exchange rates and international trade?**
   Answer: Inflation, interest rates, and change in expectations.

5. **What determines a nation to have a "balance of payments deficit"? balance of payments surplus? Use VM-2**
   Answer: Balance of payments deficit: when a monetary authority of a nation is a net seller of foreign exchange.
   Balance of payments surplus: when a nation's central bank is a net purchaser of foreign exchange.

6. **What can the U.S. government do to manipulate the U.S. dollar's exchange rate to increase foreign demand for U.S. agricultural products? Use VM-3, 4.**
   Answer: reduce the value of the dollar, reduce interest rates, reduce inflation.

STUDENT ACTIVITIES:

While conducting lesson, have students look at the daily paper (Des Moines Register, Wall Street Journal) to determine current exchange rates of foreign nations relative to the U.S. Assign students particular nations to monitor. Students should report how their nations currency moved during this time and what causes identified in the lesson might have contributed to the currency movement.

CONCLUSIONS:

Exchange rates are a vital component to a more balanced trade situation. A nation's exchange rate is affected by inflation, interest rates and change in expectations. The exchange rate influences the demand for an exporting nation's product by an importing nation. As a practical matter, most countries that manage their exchange rates act to stabilize their value relative to the U.S. dollar.

KNOWLEDGE ANALYZER - UNIT 5, LESSON 3

NAME:

T F 1. Monetary exchange rates help regulate the flow of international trade.

T F 2. Inflation is the only factor that affects exchange rates.

T F 3. The balance of payments deficit can be altered by exchange rates.

T F 4. Even though the price of agricultural commodities may remain constant, exports may increase because of a more favorable (lower) exchange rate.

T F 5. The value of the U.S. dollar, in relation to the currencies of other countries, is of concern to farmers and agribusiness.

Unit 5, Lesson 3 Key

1. True
2. False
3. True
4. True
5. True

THE FARM AND FOOD SYSTEM IN TRANSITION

Emerging Policy Issues

39

FS39

Exchange Rates and the International Monetary System

Walter Enders
Iowa State University

MOST INTERNATIONAL purchases and sales are carried out between parties who use different national currencies. In order to make purchases from their own domestic firms, the Japanese use yen, the Germans use marks, and the British use pounds. To make purchases from the U.S., foreign residents must generally acquire dollars. For example, a British firm wishing to purchase U.S. corn would have to make payment in terms of U.S. dollars. How can a British firm obtain U.S. dollars? Typically, the firm would purchase dollars with its own holdings of pounds. It would not be difficult for the firm to find an international financial institution—such as a large bank—that would be willing to accept pounds in exchange for dollars. Having purchased dollars, the firm could pay for the corn. In the same fashion, U.S. residents wanting to purchase foreign goods, services, or assets generally must acquire foreign exchange.

Foreign exchange is a generic term for certain very short-term financial instruments which are claims for payment in a foreign currency. The most common forms are "letters of credit" and "bills of exchange." Like ordinary checks, these forms of foreign exchange involve transferring ownership of existing bank balances. What is unique about foreign exchange is that the payer and payee operate in different monetary units. Consider a hypothetical example in which a firm (Bloomingdale's) wants to import ten thousand pounds worth of woolens from London Design. Bloomingdale's could use some of its dollar holdings to purchase a bill of exchange from a large U.S. bank (such as Chase Manhattan); this bill would call for payment of £10,000 to London Design. On receipt of the foreign exchange instrument, London Design could redeem it (with Chase or Chase's correspondent bank in England) for £10,000.

The important point to note is that *two* prices must be considered when engaging in international transactions —the foreign currency price of the item and the price of the foreign exchange instrument. Conventionally defined, the exchange rate is the number of units of foreign exchange which can be traded for a U.S. dollar. Table 1 lists the exchange rates between selected foreign currencies and the U.S. dollar.[1]

Table 1—Selected Exchange Rates, 9/28/84.

Country (currency)	*Currency per U.S. Dollar*
Australia (dollar)	1.2070
Britain (pound)	.8077
Canada (dollar)	1.3172
France (franc)	9.360
Japan (yen)	246.05
Mexico (peso)	197.50
Saudi Arabia (riyal)	3.5580
West Germany (mark)	3.0560

On September 28, 1984, one U.S. dollar could purchase .8077 British pounds, 1.3172 Canadian dollars, or 197.50 Mexican pesos. To continue our example, Bloomingdale's would need a total of $12,380 in order to purchase the £10,000 worth of woolens from London Design.[2] Suppose, instead, that the rate of exchange between dollars and pounds happened to equal one pound per U.S. dollar. When a dollar purchases more units of foreign exchange, the dollar is said to *appreciate*. Other expressions used to describe this phenomenon are "revaluation of the dollar," "rise in the value of the dollar," and "strengthening of the dollar." Notice that when the dollar appreciates, items priced in terms of foreign currency become less expensive to U.S. residents. At the 1:1 exchange rate, Bloomingdale's can acquire the £10,000 worth of woolens for $10,000.

When a dollar buys fewer units of foreign exchange, the dollar is said to *depreciate*, "fall in value," or "weaken." If, for example, the dollar fell from .8077 to .8000 pounds, Bloomingdale's would need $12,500 to buy £10,000. Clearly, a depreciation of the dollar will increase the cost of purchasing foreign exchange and of items priced in foreign currency.

Exchange Rates and Trade

As shown in Fig. 1, exchange rate changes can be quite pronounced.[3] Notice the dollar's sharp depreciation during the early 1970's and its dramatic appreciation from the late 1970's to the present. Such exchange rate movements have important consequences for inter-

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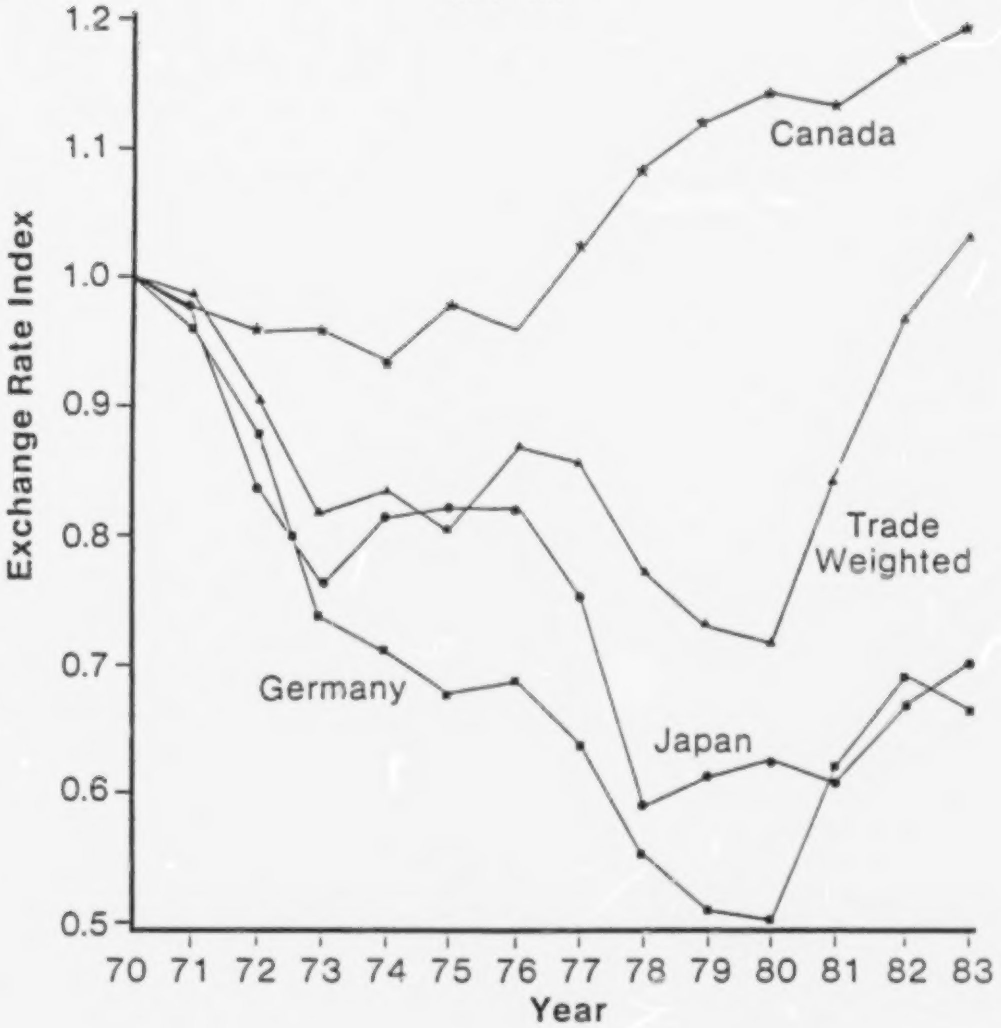
Tim Josling, Stanford University, and Kirby S. Moulton, University of California-Berkeley, contributed reviews of the paper. This is one of a larger set of resource papers sponsored by the Extension Committee on Policy (ECOP), USDA-Extension, Michigan State University Cooperative Extension Service, and the various universities and organizations that supported those who have contributed papers and reviews.

Fig. 1—Exchange Rate Indexes 1970-1983.
(1970 = 1.0)



national trade. Since the exchange rate affects the prices that U.S. residents pay for foreign goods and services, it will also affect the quantity of U.S. imports. As the dollar appreciates, U.S. residents find foreign goods and services to be less costly. Everything else equal, U.S. imports will rise if the dollar appreciates. If the dollar depreciates, making foreign products more costly, the quantity of U.S. imports will be reduced.

Now consider the effects exchange rate changes have on U.S. exports of goods and services. Suppose that U.S. corn was selling for $3.00 per bushel and that a British firm was considering a 4000 bushel purchase; clearly, the firm would have to have $12,000 to finance the transaction. If it were able to buy dollars at the rate .8077 pounds per dollar, the firm could purchase 12,000 U.S. dollars for 9692.40 pounds.[4] An appreciation of the dollar to one pound per dollar would mean that the 4000 bushels of corn (still selling for $3.00 per bushel) would cost the British firm 12,000 pounds. As the example shows, an appreciation of the U.S. dollar makes our goods and services more expensive for foreigners. When the dollar appreciates, we should expect to find a reduction in the foreign demand for U.S. products. A depreciation of the dollar reduces the cost of our goods and services to foreigners. At an exchange rate of .8000 pounds per dollar, it takes 9600 pounds (12000 × .8 = 9600) to buy 4000 bushels of U.S. corn. The important point is that U.S. exports of goods and services can be expected to increase as the dollar depreciates and to decrease as the dollar appreciates.

In the discussion presented above, we made some important simplifications. First, not all international transactions involve the use of foreign exchange. Since some foreigners hold U.S. dollars and some U.S.

residents hold foreign exchange, parties in international transactions sometimes do not need to purchase additional foreign exchange. Many of the foreign aid and military grant programs of the U.S. government do not use foreign exchange. Furthermore, some international transactions actually involve barter. While it is infrequent between Western nations, barter trade is common between the Eastern-Bloc nations and in East-West trade. Changes in the exchange rate have no direct effects on these transactions, which do not involve foreign exchange.

A second simplification is the assumption that all U.S. export items are priced in dollars and all import items are priced in terms of foreign currency. Oftentimes, foreigners are willing to invoice in terms of the dollar (i.e., willing to accept dollars in payment). Upon receiving the dollars, the resident of the foreign nation will usually convert them to local currency. Petroleum from OPEC is the most important example of an export for which foreigners are willing to accept U.S. dollars in payment. OPEC members hold some dollars and sell some of their dollar receipts for the currencies of various nations. Yet this phenomenon does not really change the relationship between the dollar and U.S. imports. A depreciation of the dollar will induce foreigners to charge more dollars for the goods and services they sell to the U.S., thus reducing U.S. imports.

The **Balance of Goods and Services** is the difference between a nation's exports and imports of goods and services. As shown in Table 2, U.S. exports decreased in 1982 and 1983 while the general trend has been for imports to increase. One reason for this pattern is the appreciation of the dollar.

Table 2—U.S. Balance of Goods and Services.
(in billions)

Year	*Exports*	*Imports*	*Balance*
1978	175.7	206.4	– 30.7
1979	216.6	245.9	– 29.3
1980	264.3	285.6	– 21.3
1981	282.5	305.8	– 23.3
1982	261.1	290.9	– 29.8
1983	253.3	308.0	– 54.7

Determining Exchange Rates

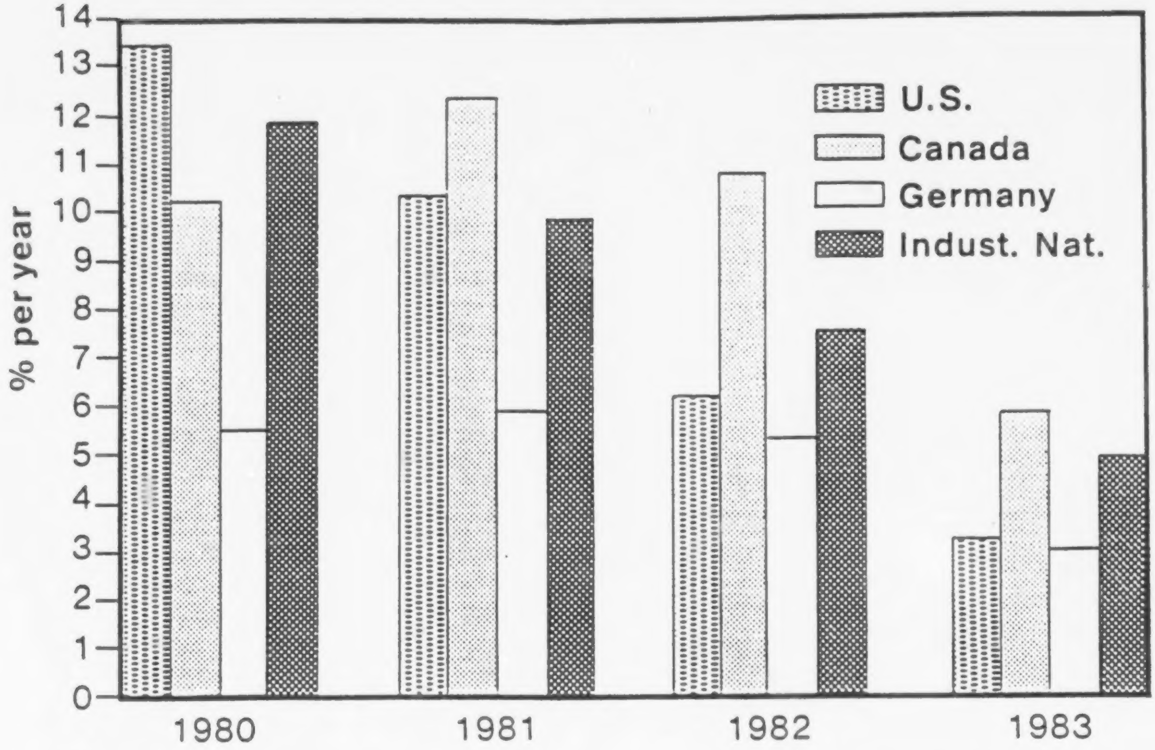
Why do currencies appreciate or depreciate? The best way to answer this question is to consider a situation in which governments refrain from intervening in the foreign exchange markets. We can focus our attention on the large banks and on the rates which they charge for their bills of exchange. Foreign exchange dealers purchase foreign exchange at a slightly lower price than the one at which they sell foreign exchange. This discrepancy, called the "spread," is what allows foreign exchange dealers to cover their costs. Return to the situation in which Bloomingdale's purchased £10,000 for $12,380. Why was Chase willing to sell Bloomingdale's £10,000? The answer is that Chase was able to buy the pounds for something less than $12,380. With the exceptions mentioned above, all British residents wanting to buy U.S. goods, services, or financial securities will wish to sell pounds in order to acquire U.S. dollars. Recall that the British firm wanting U.S. corn had to sell pounds in order to acquire U.S. dollars. If Chase were able to sell the British firm $12,000 for exactly £10,000, Chase would make a profit; it would use the £10,000 received from the British exporter to settle the account with Bloomingdale's. It would transfer $12,000 out of the $12,380 that it received from Bloomingdale's to the account of the British exporter. Chase would keep the residual $380 as a brokerage fee.

Typically, foreign exchange dealers attempt to balance the inflows of a currency with the outflows of that same currency (as in the example under consideration) and 'pocket' the commission. What would happen if there was a sudden surge, a case in which foreign exchange dealers as a group received many new orders for British pounds without receiving new orders for dollars? Clearly, the dealers would not be able to pay out more dollars than they were scheduled to receive. What they would do is to charge a greater number of dollars to those who wanted pounds. This would discourage some individuals from attempting to purchase pounds. In order to attract more pounds, dealers would offer dollar denominated bills for fewer pounds. Simply put, the dollar would depreciate. The new conversion rate (i.e., exchange rate) between dollars and pounds would be such that the dollar would purchase fewer pounds. The dollar would continue to depreciate until the dollar and pound orders for bills of exchange just balanced.

Now consider what would happen if there were a surge in which individuals wanted to use pounds to purchase dollars. Dealers would not have enough dollars. They would offer fewer dollars in an attempt to discourage pound purchases. In order to acquire dollars, foreign exchange dealers would offer pound denominated bills for fewer U.S. dollars. As the dollar purchased more pounds, the dollar would appreciate.

To summarize, if there is an increase in the demand for foreign exchange the dollar will tend to depreciate. On the other hand, if there is an increase in the demand for U.S. dollars, the dollar will tend to appreciate. What factors alter the demand for different currencies? Economists have identified three major factors which alter the demands for different national monies: differential inflation rates, interest rate changes, and changes in expectations. If the inflation rate in the U.S. falls below the inflation rates of other nations, U.S. goods and services will become less expensive relative to those of other nations. At the existing exchange rate, more

Fig. 2—Inflation Rates (as measured by consumer prices).



foreigners will want U.S. goods and services (hence dollars to purchase them) and fewer U.S. residents will want foreign goods and services (hence foreign exchange to buy them). Thus if the U.S. inflation rate falls below that of other nations, the dollar will appreciate. As shown in Fig. 2, the U.S. inflation rate has been reduced relative to that of our major trading partners. In 1980, the U.S.inflation rate was nearly 14 percent per year while the average rate for the industrialized nations was about 12 percent. By 1983, the annual U.S. rate was slightly over 3 percent while the average over the industrialized nations was about 5 percent.

Increases in U.S. interest rates relative to rates in other nations will make U.S. interest bearing assets more attractive. Individuals wishing to buy these assets will demand more dollars from foreign exchange dealers. Thus increases in U.S. interest rates will tend to cause the dollar to appreciate. Part of the dollar's strength on international markets can be explained by the fact that U.S. interest rates have remained quite high.

Changes in expectations are also important in explaining very short-term changes in exchange rates. If individuals anticipate that a currency will depreciate in the future, they will try to unload some of that currency today. If a large enough number of people anticipate a depreciation, the depreciation will occur (sales of a given currency will depress its price). Anticipations of an appreciation also tend to be self-fulfilling. This is an important reason why the foreign exchange markets exhibit a large amount of volatility; any new information which causes individuals to alter their expectations of the future rate of exchange will affect the current rate of exchange.

It is interesting to note that economic disturbances in one sector of the economy will affect the other sectors. Consider the events generated by the high interest rates prevailing in the U.S. We have just argued that high U.S. interest rates will cause the dollar to appreciate. Yet an appreciation of the dollar will cause U.S. goods and services to become relatively expensive for foreigners. Very simply, high U.S. interest rates (through their effects on the exchange rate) can be expected to reduce the foreign demand for U.S. agricultural products.

Payments Deficits and Surpluses

In the previous section we assumed that there was no government intervention in the foreign exchange markets. In such a situation, a nation is said to have a freely floating or flexible exchange rate. Oftentimes, however, governments want to maintain a constant or fixed exchange rate. The most common way of fixing the exchange rate is for the nation's monetary authority (central bank) to purchase or sell foreign exchange. Again, consider a situation in which British residents want to sell pounds in order to obtain dollars. We know that in the absence of central bank intervention, the pound would depreciate. Suppose, however, that the Bank of England wanted to maintain a fixed rate of exchange between dollars and pounds. As dealers received the new orders for dollars, the Bank of England could begin to place orders to sell U.S. dollars. Foreign exchange dealers would find that their inflows of dollars and pounds would equal their outflows; the exchange rate would be maintained. The Bank of England could fix the exchange rate between dollars and pounds by purchasing dollars when private exchange dealers faced a net inflow of dollars and by selling dollars when exchange dealers faced an outflow of dollars. When the monetary authority of a nation (the Bank of England, in our example) is a net seller of foreign exchange, the nation is said to have a **balance of payments deficit.**[3] The nation will be selling foreign exchange for its own currency. Conversely, when a nation's central bank is a net purchaser of foreign exchange, that nation has a **balance of payments surplus.**[4]

Certainly surplus nations can continue to purchase and accumulate foreign exchange. How can deficit nations continually sell foreign exchange? For example, how can a deficit nation continually sell U.S. dollars? The simple answer is that it can't! Central banks do hold inventories of foreign exchange called reserves. These reserve holdings can be sold in order to maintain the nation's rate of exchange. When such reserves are exhausted, the nation must let its currency depreciate, borrow from other nations, or impose various measures (such as exchange controls or tariffs) to restrict the large demand for foreign currencies.

The International Monetary System in Transition

From 1946 until the early 1970's, most nations of the world (with the exception of the Communist Bloc nations and Switzerland) followed what is called the Bretton Woods System. The key provision of the Bretton Woods System involved the manner in which nations managed their exchange rates. Under Bretton Woods (so-called because many of the international negotiations took place in Bretton Woods, New Hampshire):

1. The U.S. government fixed the value of the dollar in terms of gold. The U.S. was to buy or sell gold at a price of $35 per ounce.
2. Other nations were to fix the value of their currencies to the U.S. dollar (or to the British pound). This was to be accomplished by each member establishing a 'par' or 'parity' value of its currency. A nation's exchange rate could not differ from the par value by more than 1 percent. In an exceptional circumstance, a nation could alter its exchange rate by up to 10 percent of par. Larger changes required the consent of the International Monetary Fund.

Under the Bretton Woods System, exchange rates did not vary substantially. The dollar was fixed to gold, and other currencies were fixed (within a percentage point) to the dollar or to the British pound, which was tied to the dollar.

End of Bretton Woods System

The first part of the system to give way was the tie between dollars and gold. On several occasions, the dollar came under speculative attack as foreign residents attempted to convert their dollar holdings into gold. The U.S. was not able to continually fight these speculative runs on the dollar. Finally, on August 15, 1971, President Nixon announced that the U.S. would no longer sell gold for dollars. The death knell for Bretton Woods came during the 1973-1974 period with the fourfold increase in the price of oil. Since OPEC priced oil in terms of U.S. dollars, the petroleum importing nations needed massive amounts of dollars to pay for their oil imports. The fact that OPEC nations were willing to hold most of their export revenues in terms of U.S. dollars compounded the situation. Oil importers had to sell their own currencies for dollars. At first, monetary authorities in the oil importing nations used their dollar reserves to support their own exchange rates. When these reserves were exhausted, numerous depreciations occurred. Countries were no longer willing or able to fix their currencies to the dollar. The Bretton Woods System had ended.

Today's Exchange Rates

Bretton Woods was never replaced by a formal set of international monetary agreements. In today's world, a country may fix its exchange rate, let its exchange rate float, or use some combination of the two. Many countries have adopted a **managed float** in which they let the exchange rate change in response to large or prolonged changes in the net demand for the currency. They intervene to reduce exchange rate movements which would occur in response to small, short-term changes in currency demands. As a practical matter, most countries that manage their exchange rates act to stabilize their value relative to the U.S. dollar. The U.S. central bank (the Federal Reserve) rarely intervenes in currency values. Economists have engaged in a great deal of speculation as to whether we will ever see a return to a fixed exchange rate system (such as Bretton Woods or a gold standard). To date, most of the major nations of the world have chosen **not to fix exchange rates.** Leaders of these nations agree that the costs of acquiring and using reserves are greater than the benefits of having a perfectly fixed exchange rate system. Exchange rate movements are likely to be with us for a long time into the future.

Footnotes

[1] There is a difference between the price at which you can purchase foreign exchange and the price at which you can sell foreign exchange. This discrepancy between buying and selling prices, called the *spread*, is discussed under Exchange Rate Determination.

[2] As one U.S. dollar will buy .8077 British pounds, it takes 1.238 dollars to purchase one British pound (1/.8077 = 1.238). Thus, it takes $12,380 to obtain £10,000.

[3] The line labeled "Trade Weighted" is a measure of the average value of the dollar against a broad spectrum of currencies. The currencies of the major U.S. trading partners have a larger weight in the average.

[4] Each dollar can be had for .8077 pounds. In order to buy 12,000 dollars, the firm needs 9692.40 pounds (.8077 × 12,000 = 9692.4).

[5] To be precise, the nation has an Official Settlements Balance of Payments deficit. It is important to note that there are many widely used balance of payments concepts. As noted, the Balance of Goods and Services, for example, records the difference between a nation's exports and imports of goods and services. The Balance of Trade refers to a nation's net *merchandise* exports (i.e., services—such as tourism and interest payments—are excluded). These different concepts are not to be confused; it is possible for a nation to have an Official Settlements deficit and a Balance of Goods and Services surplus.

[6] Again, the nation has an Official Settlements surplus.

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Issued in furtherance of cooperative extension work in agriculture and home economics, acts of May 8, and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Gordon E. Guyer, Director, Cooperative Extension Service, Michigan State University, E. Lansing, MI 48824. Price 25 cents. 1P-3M-85-DG-CP

Published by the Cooperative Extension Service, Michigan State University, East Lansing, Michigan, 1985

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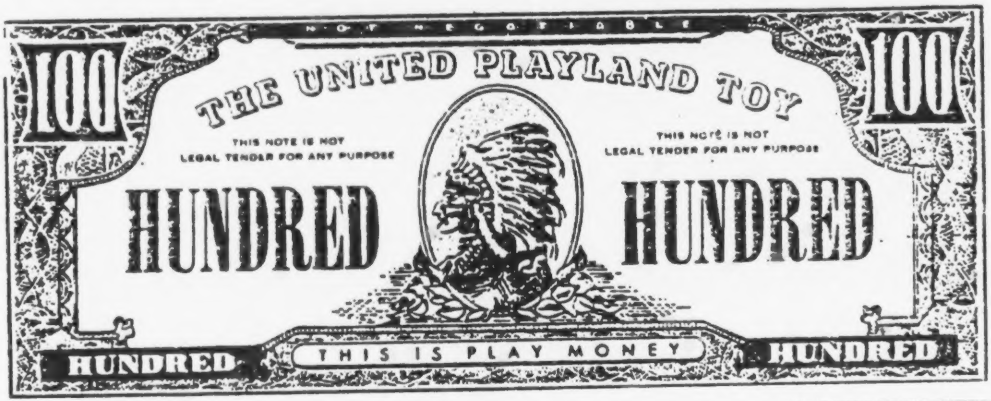
********** FOR USE WITH THE INTEREST APPROACH IN UNIT 5, LESSON 3

5.32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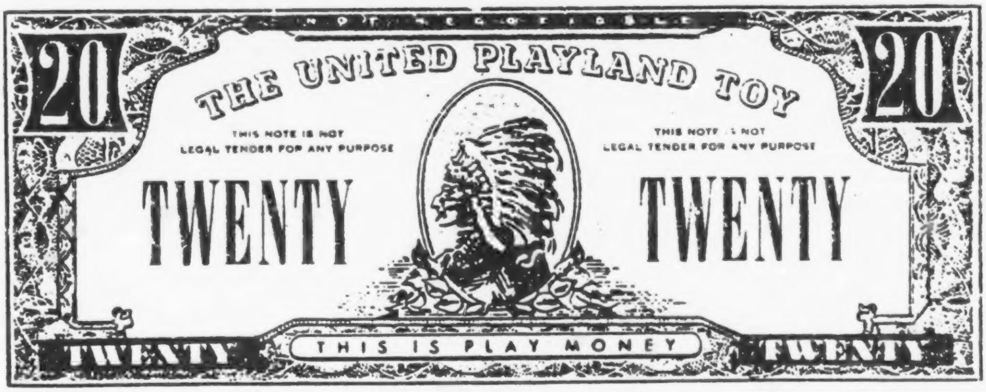
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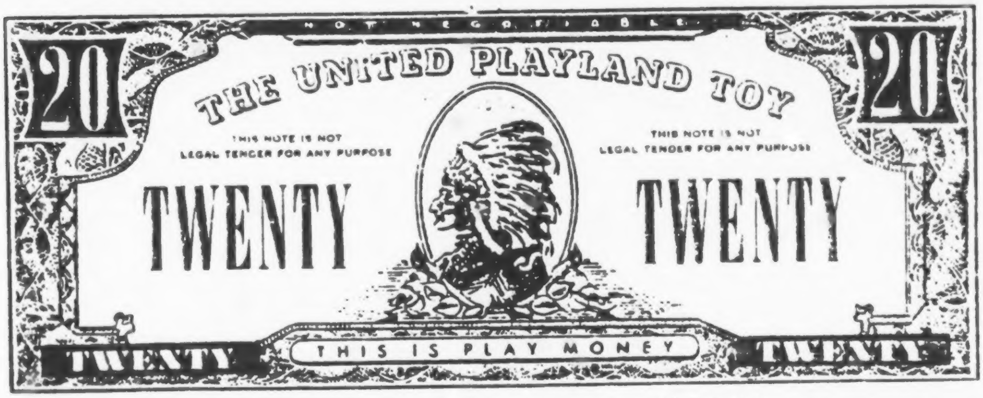
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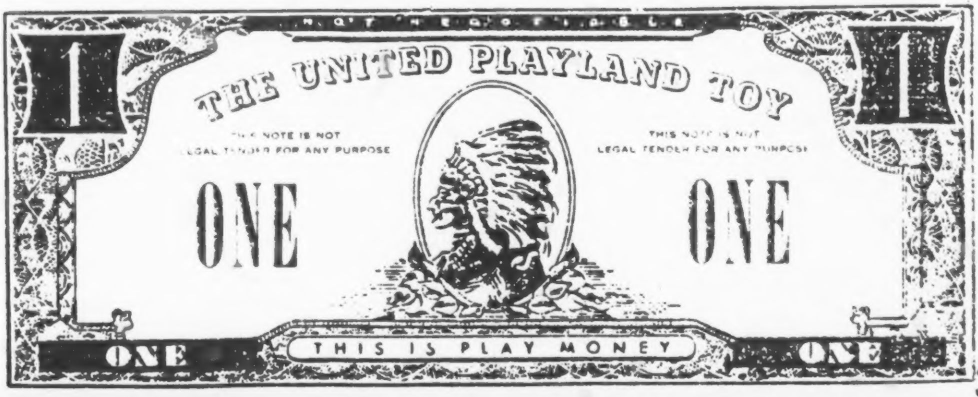
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Selected Exchange Rates. 9/28/84

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France(franc)	9.360
Japan(Yen)	246.05
Mexico(Peso)	197.50
Saudi Arabia(Riyal)	3.5580
West Germany(Mark)	3.0560

U.S. Balance of Goods and Services.

Table 2—U.S. Balance of Goods and Services.
(in billions)

Year	*Exports*	*Imports*	*Balance*
1978	175.7	206.4	−30.7
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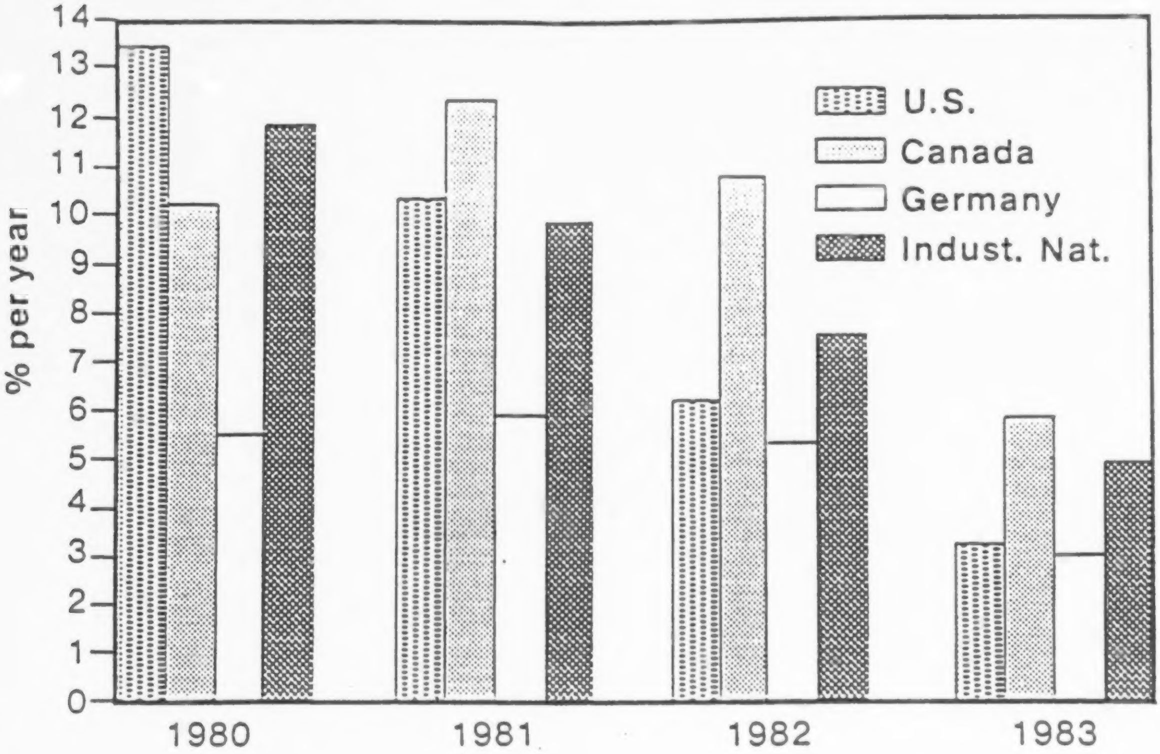
1981	282.5	305.8	−23.3
1982	261.1	290.9	−29.8
1983	253.3	308.0	−54.7

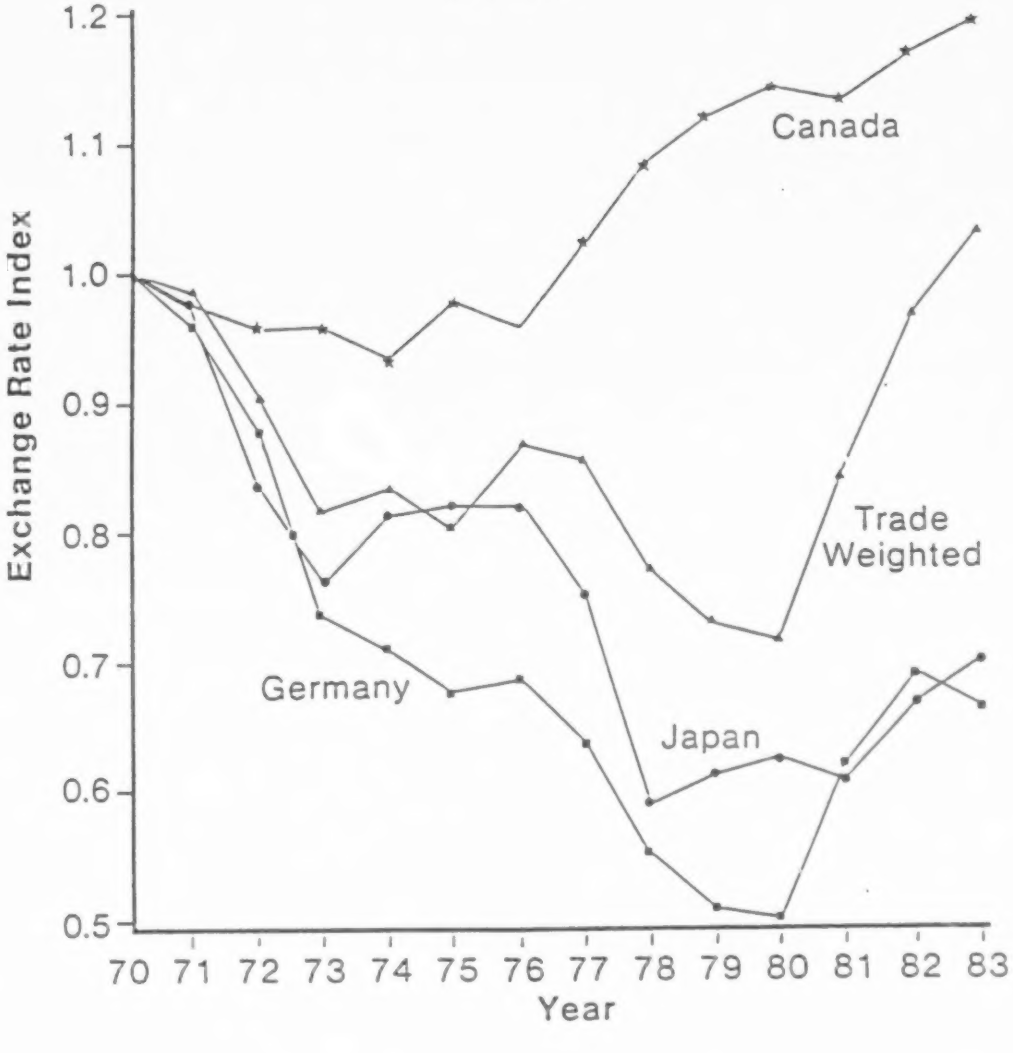
Inflation Rate
(as measured by consumer prices)

Fig. 2—Inflation Rates (as measured by consumer prices).



Exchange Rate Indexes
(1970-1983)

Fig. 1—Exchange Rate Indexes 1970-1983.
(1970 = 1.0)



UNIT 5: World Export Markets

LESSON 4: Governmental Policies that Affect Trade

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Identify world trade policy issues.
2. To determine what world trade policies effect U.S. agriculture.
3. Determine why particular trade policies are implemented by countries.

MATERIALS/REFERENCES NEEDED:

1. World Food Trade and U.S. Agriculture, October 1987, World Food Trade Institute, Ames, Iowa, Sixth annual edition, pp.66-69
2. International Trade VHS Film. Iowa State Film and Video Collection 1984-1986, #S-52081H

INTEREST APPROACH:

1. Bring three pieces of fruit (apples, oranges, bananas, etc.) to class. Distribute the three pieces of fruit to three different students in class. Give each piece of fruit an exorbitant price and tell students to sell fruit to each other. To help students sell their fruit, offer subsidies that will give the student the same amount of money but give the purchaser the opportunity to buy the fruit at a lower and more feasible price.
2. Ask students if they or someone they know purchases goods over the telephone from and out-of-state seller. Ask what price advantage might be obtained through out-of-state purchases compared to Iowa. Inform students that no sales tax is added to out-of-state phone orders. This law provides some incentive to purchase out-of-state. Ask what type of federal government action concerning trade relates to the sales tax example.

QUESTIONS:

1. **What three agricultural trade factors led to financial stress in American Agriculture in the early 1980's?**
   Answer:
   1. Large carryover stocks of agricultural commodities
   2. Declining export demand

2. **In recent years, what has caused instability of the U.S. dollar's exchange rate?**
   Answer: Monetary and fiscal policy (budget deficit)

3. **How could the Gramm-Rudman-Hollings Act have an effect on world agriculture trade?**
   Answer: A decline of real interest rates should occur, which will decrease the exchange rate, and, therefore, a gradual up-trend in U.S. agricultural exports will occur.

4. **What positive effects would lower real interest rates have on world trade?**
   Answer: Accelerate developing nation's economic growth rates by easing interest cost burdens

5. **Why are trade subsidies used to influence world trade?**
   Answer: They are used to increase an exporting nation's share of global trade and/or reduce surplus domestic supplies while protecting incomes of its agricultural producers

6. **What dangers exist when governments implement trade protection?**
   Answer: It can lead to depression of the world trade and to economic depression in the world through retaliation.

STUDENT ACTIVITIES:

1. Have students report on the trade policies of a particular nation. They should determine what effects the policies have had on their trade and on other countries agriculture trade.

2. Ask students to report on how local governments provide incentives to boost the local economy, examples: tax abatements, no sales tax, etc.

CONCLUSION:

Many national concerns come to play an important role in international agricultural trade. There are many tools available to trading nations to alter the trading situation in their favor. Nations, when affected by trade policies of other nations, enact their own policies that often have a countering effect. All trade policies attempt, in some way, to provide support for economies inherently important to a particular nation. Trade policies will continually be implemented to keep trade balanced from an individual nation's viewpoint.

KNOWLEDGE ANALYZER
(Unit 5, Lesson 4)
NAME:

T F 1. Trade protection can lead to economic growth for developed countries.

T F 2. Large carryover stocks of agricultural commodities contribute to the financial stress experienced in American agriculture.

T F 3. A decline in interest rates will contribute to a decline in U.S. agricultural exports.

T F 4. Fiscal and monetary policy have contributed to the instability of the U.S. dollars's exchange rate.

T F 5. Lower interest rates stimulate economic growth.

T F 6. Trade subsidies increase domestic supplies of a particular commodity.

Key to Knowledge Analyzer
(Unit 5, Lesson 4)

1. False

2. True

3. False

4. True

5. True

6. False

UNIT 5: World Export Markets

LESSON 5: How Can Biotechnology Affect the Future of Agriculture Trade?

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Describe the possible future effect that biotechnology could have on world trade.

2. Identify new technologies that could impact world trade.

3. Determine what biotechnology could affect Iowa's agriculture industry.

MATERIALS/REFERENCES NEEDED:

1. World Food Trade and U.S Agriculture, October, 1987. The World Food Institute, Ames, Iowa. Sixth annual edition, p. 70..

INTEREST APPROACH:

Bring in various products consisting, in part, of basic agriculture commodities. Ask students what agriculture commodities might be used in the products you display. Some products made from agriculture commodities include: hair conditioners, plastics, gum, abrasives, spray starch, ethanol for a gasoline blend, pharmaceuticals. Ask how these products were affected by biotechnology.

QUESTIONS:

1. **What two recent biotechnical developments could have an effect on U.S. and world agriculture?**
   Answer:
   A. A naturally occurring hormone for cattle that increases milk production per cow.
   B. A growth stimulant for swine that may increase feed-conversion efficiency.

2. **What would be the net effect of these recent developments on global agriculture trade?**
   Answer: The net effect could be a modest reduction in global grain trade at some time in the future.

3. **Name the future developments in crop biotechnology that could have an effect on U.S. and world agriculture.**
   Answer: Drought tolerance, nitrogen fixation, hybrid soybeans, resistance to cold, frost damage, insects, and

lodging; and development of crops with naturally occurring herbicide and insecticide qualities.

4. **What would be the net effect of new crop production developments on world agriculture trade?**
   Answer: Increase productivity, reduce total costs per unit, and increase surplus global grain availability.

5. **List the possible uses of agricultural crops in making industrial products.**
   Answer: Ethanol, plastics, hair conditioners, hand cleaners, soap, gum, linoleum, paints, abrasives, etc.

STUDENT ACTIVITIES:

1. Have students make up bulletin board display identifying the different ways crops and livestock goods are used to make industrial products.

2. Assign students a report to do on all the industrial products made from a particular agricultural product.

CONCLUSION:

Major scientific developments in this area could have profound impact on global trade, the structure of production agriculture, appropriate domestic and world trade policies, agribusiness firms, food security, and the ability of the world to meet the needs of people in developing nations whose diets are below minimum nutritional standards.

KNOWLEDGE ANALYZER
(Unit 5, Lesson 5)
NAME:

T F 1. Biotechnology development will have no affect on grain trade.

T F 2. Biotechnology developments in the animal science field will reduce the amount of grain supplies in the world.

T F 3. New crop production developments will free more acres for livestock use, therefore, decreasing grain supplies.

T F 4. Hair conditioners are made from agricultural products.

T F 5. Biotechnology developments will provide new agricultural jobs.

Key to Knowledge Analyzer
(Unit 5, Lesson 5)

1. False

2. False

3. False

4. True

5. True

Unit 6: Developing and Expanding Markets

UNIT 6: Developing Markets

Lesson 1: International Markets

OBJECTIVES:

Upon completion of this lesson, the students will be able to:

1. Describe the role of quality standards in the market place.
2. Identify factors that promote or retard agricultural exports.
3. Determine role of technology and exports/imports.

MATERIALS/REFERENCES NEEDED:

1. Grain Quality: Positioning Ourselves for the Future, Iowa Quality Grain Study Final Report, November 16, 1987, Evans and Associates, P.O. Box 278, Cedar Falls, Iowa 50613 (319/277-4702).
2. HO-1, Discussion Questions on Ag Export
3. World Food Trade and U.S. Agriculture

VISUAL MASTERS:

VM-1	Identify-Preserved Shipments
VM-2	Foreign Interest in Direct Purchases
VM-3	Reasons for Shortage of Iowa Sellers
VM-4	Foreign Customer Requests
VM-5	Test Sampling of Commodities to be Exported
VM-6	Official Definition of Soybeans
VM-7	Official Definition of Corn
VM-8	Difference in Standards
VM-9	Grain Standards Amendment of 1986
VM-10	Grain Quality, a Key to Retaining Market Share
VM-11	Grain User Demands
VM-12	New Technology for Grain Quality
VM-13	Producer Role in Improving Grain Quality
VM-14	What Can Iowa Do?
VM-15	Misconceptions About Exporting

INTEREST APPROACH:

1. Two senior representatives of the Mexican oilseed processing industry, interested in direct shipments of Iowa soybeans, visited an Iowa country warehouse facility and talked with the elevator managers in detail about how such a transaction could best be handled. Then they returned to Mexico where they structured two requests for

bids specifically to match the requirements of the Iowans as the Mexican representatives understood them. One request was for 6,000 metric tons. The other was for 6,500 metric tons. Both were to be shipped by rail. Iowa firms were unwilling to submit bids in a timely manner. (Grain Quality, p.44)

QUESTIONS:

1. **Why are foreign consumers interested in purchasing Iowa commodities?**
   Answer: Iowa has a reputation for quality and purchasers would like to purchase a quality product.

2. **Why is there a shortage of Iowa sellers to foreign markets?**
   Answer: Huge tonnages and large dollar values, large risks and small profits, lack of understanding of the export process affect. Inability to secure sufficient tonnages of grain to sell. Export contracts are very complex and difficult. The state of Iowa is not a very logical geographic location to export from.

3. **What are quality concerns of exporting?**
   Answer: Currently the standards of quality do not address the market demand and are very open to interpretation. The market is demanding that quality be defined in terms of oil, protein, moisture range content, etc. The U.S. Grain standards are currently being re-defined.

4. **What can producers do to improve grain quality?**
   Answer: Select seed for quality of production rather than quantity. Adjust harvest equipment correctly and harvest at proper time. Manage grain in storage to maintain quality. Apply proper grain drying techniques.

5. **What can the state of Iowa do?**
   Answer: Promote national grain standards and other marketing factors. Help reduce the impact of government income protection on reducing quality of stored grain. Expand education, public information, and research programs. Promote upgrading of quality standards at all marketing points in Iowa.

STUDENT ACTIVITIES:

1. Why do foreign consumers want to purchase Iowa grain? Review VM-1 through VM-3.

2. Ask students to identify the export quality standards of various commodities, e.g. What is corn? What is soybeans? What is pork? What is beef? How would students communicate to potential purchasers what they are selling?

3. What is the role of quality in exporting Iowa grain? Review VM-4 through VM-9.

4. What can be done to improve quality? Review VM-10 through VM-13.

5. Review Discussion Questions on Exporting, HO-2. There are no definite answers for these questions as these were the basis of the 1987 conference for the World Food Institute. Answer questions as best possible using World Food Trade and U.S. Agriculture as a reference.

7. Review VM-15 on Misconceptions of Exporting Grain and VM-14 on what Iowa can do to improve export markets.

CONCLUSION:

International marketing of agricultural commodities is changing very rapidly. The market is demanding more emphasis on quality in contracts. Purchasers want to receive the quality of grain that they purchase and will buy from whomever will sell them what they want.

HO-1 Unit 6, Lesson 1

Ag Export Discussion Questions

1. Will foreign grain and oilseed producers respond to sharply reduced U.S. price support levels for major crops by reducing area planted and use of major inputs such as fertilizer in the next few years?

2. What forces may work to increase world demand and grain trade in the years immediately ahead; and what rate of growth is realistic for planning purposes?

3. What will be the longer-term global supply and demand for farm products with a continuation of current economic and trade policies?

4. Will the upward trend in U.S. shares of global grain and oilseed exports that began in 1986-87 continue in future years?

5. Will U.S. land-idling programs permit U.S. grain carryover stocks to be reduced in the next several years?

6. What U.S. and world economic policies are appropriate in dealing with the problems of sluggish growth in global agricultural trade, food security, and international debt?

7. What impact will biotechnology have on future production and trade patterns?

8. What can be expected from the GATT (General Agreements on Trade and Tariffs) negotiations in the next few years?

World Food Trade and U.S. Agriculture, October 1987, p. 3.

Unit 6, Lesson 1
Knowledge Analyzer
Name:

T F 1. Producers have an important role in improving grain quality for the final consumer.

2. Future standards of grain quality may include:
   a. Protein, oil, and starch content
   b. Presence of toxins and residues
   c. Number of times grain is handled
   d. Hardness of kernels
   e. All of the above
   f. A, B, and D

T F 3. One of the reasons there is an emphasis on grain quality is that it is currently a "buyer's market" rather than a "seller's market."

T F 4. The Grain Standards Act was amended in 1986 and describes in detail new standards for grain quality.

T F 5. Many foreign customers of U.S. grains are dissatisfied with the quality of corn and soybeans they receive.

6. Why are foreign consumers interested in buying directly from producers?

   a.

   b.

   c.

   d.

7. There is a shortage of Iowa grain sellers to foreign purchasers because (check all that apply):

_____ a. Small profits

_____ b. Huge volumes and large dollar amounts are involved

_____ c. Export contracts are too simple and short

_____ d. Iowa's only ship loading port is too busy

_____ e. Large risks

_____ f. Lack of understanding of export process

Answers to Knowledge Analyzer

1. True

2. F (A, B, and D)

3. True

4. False

5. True

6. a. Timely shipments
   b. Easy credit
   c. Quality grain
   d. Barter

7. A, B, E, and F

Identify-Preserve Shipments

Foreign consumers of our grain have great interest in buying directly from producers, going around the major grain companies and utilizing identity-preserved shipments.

WHY?

One of the major reasons is to purchase a quality product.

Foreign Interest In Direct Purchase

There are more foreign consumers of grains interested in buying directly from U.S. producers and small merchants than there are producers and small grain merchants willing and able to sell.

Reasons For Shortage Of Sellers

- Huge tonnages and large dollar values involved alarm potential sellers.
- Large risks
- Small profits
- Lack of understanding of the long and complex export process.
- Inability of would-be sellers to mobilize sufficient tonnage of grain of the required quality.
- Export contracts are very complex and difficult.
- The state of Iowa is not a very logical geographic location to export from.

Foreign Customer Requests

Many foreign customers of our grains are dissatisfied with the quality of corn and soybeans they receive from the U.S.

Their principal complaint is not that they are unable to buy grain of high quality from us, but that they often do not receive the quality for which they pay.

There are solid grounds for these complaints, and our customers are beginning to buy elsewhere.

Sampling Of Commodities To Be Exported

A sample weighs a little over two pounds from a sub-lot of several million pounds of grain. Not a very large sample for the amount of grain evaluated.

Samples can be taken until the sample passes.

Do you see an export problem here?

Grain Quality, P. 25- 27

Official Definition Of Soybeans

The official definition of soybeans states that soybeans are a grain which:

" consists of 50 percent or more of the whole or broken soybeans (Glycine max (L.) Merr.) which will not pass readily through an 8/64 inch sieve and not more than 10.0 percent of other grains for which standards have been established under the United States Standards Act."

This means that if soybeans were worth $5.00 a bushel and oats were worth $1.00 per bushel, it would be possible under some circumstances to increase profits by adding oats to beans as an officially acceptable foreign material.

Do you see an export problem here?

Grain Quality, P. 28,92

Unit 6
Lesson 1
VM 7

Official Definition Of Corn

The official definition of corn states that corn:

" must contain at least 50% whole kernels and permits corn to contain up to 10 percent of other grains for which standards have been established. A whole kernel is defined as one from which not more than 25% is missing."

Do you see an export problem here?

Grain Quality, P. 28-29,81

Difference In Standards

Under U.S. standards only live insects are counted. Dead insects are disregarded, in spite of the fact that flour millers complain that dead insects make dark spots in flour just as live insects do.

To determine the amount of stink bug damage to soybeans, the first step is to count the number of beans stung by stink bugs. THAT NUMBER IS THEN DIVIDED BY FOUR.

Do you see an export problem here?

Grain Quality, P. 28

Grain Standards Amendment Of 1986-Encouraging Signs Of Change.

The Grain Standards Act was amended by congress in 1986.

The Amendent includes a new statement of principle which is of great significance.

The act now says that the principle purpose of grain standards shall be to "describe the true condition of the grain as accurately as practicable."

A number of proposed changes in official standards and procedures have been drafted and published in the Federal Registrar for public comment. Unfortunately, few concerned citizens see the Federal Registrar. However, the major exporters read the registrar carefully and comment in great detail.

Grain Quality, P. 30

Grain Quality A Key to Retaining Market Share

Correcting all of these deficiencies and restoring confidence amoung our overseas customers will take time. Necessary changes in this country will include altering attitudes and practices of long standing as well as improving our official grain standards. Substancial capital investments will be required. And we cannot assume that when these things have been accomplished our export market will dramatically improve.

But one thing is certain, we cannot effectively compete in today's world grain markets unless our customers feel assured of fair treatment when they buy grain in the United States.

Grain Under Demand

Users of Grains will demand more special characteristics in the grains they purchase.

Why?

New Technology For Grain Quality

Technology is rapidly evolving to permit quick measurement of many quality characteristics of grains that could not be readily measured in the past:

- Protein content
- oil content
- starch content
- hardness of kernels
- stress cracks
- maximun variation in moisture content of kernels.
- presence of toxins and residues

Producers Have An Important Roll In Improving Grain Quality

It would be a mistake to ignore the fact that those who grow the grain are responsible for some of the problems. Producers base their choice of seed almost entirely on the amount of grain the seed should produce, not on the quality of the grain which will be harvested. They often yield to the temptation to begin combining corn at the earliest possible date when the corn kernels are relatively soft and susceptible to damage. They are not always careful about adjusting the combine. In the rush of harvest, producers run combines to fast in the field, thus reducing the grain quality. They often dry corn at temperatures so high that corn kernels develop stress cracks that makes those kernels less resistant to breakage. They run augers faster than necessary anr thereby increse breakage. And finally, producers are not always as careful as they might be in monitoring the conditions of grain stored on the farm.

What Can Iowa Do?

Promote improved national grain standards and alternate factors

Better standards will improve customer satisfaction

Reduce the impact of government income-protection programs on quality

Stored grain does not improve quality

Expand education, public information and research program.

What are the facts?

Upgrade the testing capabilities of country elevators

Develop and test for new quality standards at all marketing points

Misconceptions About Exporting

All foreign customers want high quality grain

Most foreign customers will pay a premium for quality.

Most of the problems are concentrated at the export terminals, and if the exporters could only be stopped from adding foreign material to grain, that would take care of the problem.

Iowa grain producers deliver only high quality grain into commercial channels.

How do you feel about these tidbits of information?

Grain Quality, P. 68

UNIT 6: World Export Markets

Lesson 2: New Products and By Products

OBJECTIVES:

After completion of this lesson, the students will be able to:

1. Identify new uses/products from agricultural commodities
2. Determine why development of new products is important
3. Describe the role of agricultural promotion boards in product development
4. Describe the role of farmers in new product development

MATERIALS/REFERENCED NEEDED:

1. Corn- Its Your Business. Iowa Corn Promotion Board, P.O. Box 65820, West Des Moines, Iowa 50265 (515/225-9242)
2. Soybean Uses. Iowa Soybean Promotion Board, P.O. Box 5228, Des Moines, Iowa 50306 (515/223-1423)
3. Meat Export Research Center-MERC Staff Report No. 1-86, February 1986
4. Food Crops Processing Reseach Center (FCPRC), Description Booklet, Iowa State University
5. World Food Trade and U.S. Agriculture, 1960-1986, Seventh Annual Edition, The World Food Institute, Iowa State University, Ames, Iowa, p.70

VISUAL MASTERS:

VM-2 Corn Checkoff Revenues
VM-2 Research is the Basic Foundation of Agriculture
VM-3 Potential New Corn Uses
VM-4 Soybeans-Oil Products
VM-4A Soybeans-Soybean Meal Products
VM-4B Soybeans-Whole Soybean Products

INTEREST APPROACH:

You have been elected president of the Iowa Goose Promotion Board. The purpose of the board is to develop markets for more "geese" through research and advertising. You have to make a five minute presentation to the board suggesting new products and uses of current goose products, research directions, and advertising ideas. If you prefer, you may be president of another promotion board of your choice.

Practice your presentation with the rest of the class and ask them to evaluate your ideas and also your presentation. You will need this practice before you go before the actual board.

QUESTIONS:

1. **What is the role of farmers in developing new products and markets?**
   Answer: Active membership in and financial support of grower and promotion associations provides an opportunity for farmers to participate in research and market development. Use VM-2.

2. **What are new developments in Corn Research?**
   Answer: Use VM-3. Corn gluten (a by-product of starch, sweetener, and ethanol production), feed research, biodegradable plastics, sweeteners, ethanol, corn oil, calcium magnesium acetate (a road deicer).

3. **What are new developments in Soybean Research?**
   Answer: Use VM-4 A&B. Printing inks, grain dust control, unsaturated fat research.

4. **What are new developments in Swine Research?**
   Answer: Research has focused on developing new markets and products for export. Refer to handout on Iowa State University's Meat Export Research Center.

5. **What are new developments in Cattle Research?**
   Answer: Again, research has focused on developing new markets and products for export. Refer to handout on Iowa State University's Meat Export research Center.

STUDENT ACTIVITIES:

1. You have determined that there are one million geese that are marketed in Iowa and have recommended a checkoff of $.02. Develop an annual budget for the Goose Promotion Board. Include such items as product development, production research, advertising, staff wages, overhead, travel, etc. Give a rationale for your budget.

2. Review VM-1 listing the checkoff and revenue from each state as an example of how a promotion board generates money for research and marketing.

3. Conduct a survey of local farmers for their thoughts on product checkoffs and the effectiveness of the promotion boards. Questions you might ask are:
   A. Are the checkoffs too high?

B. Do they apply for refunds? Why or why not?
C. What suggestions do they have to improve the effectiveness of the promotion boards?
D. Do they think the promotion boards should be more active in advertising, product research, or production research?
E. Which promotion board do they like the best and why?
F. Are they active in their regional area?

6. Read Biotechnology: Implications for Future World Agricultural Trade(World Food Trade and U.S. Agriculture, p 70) and answer and discuss questions (SA-1).

CONCLUSION:

Promotion boards have been very active in conducting product research and developing potential markets. Their existence is necessary in an ever increasing market.

Student Activity -1 Unit 6, Lesson 2

Questions on Biotechnology: Implications for Future World Agricultural Trade

1. How is biotechnology generally described:
Answer: Scientific developments that make possible the transfer of genes and other facilitating processing in plant and animal breeding that may sharply increase future agricultural productivity.

2. What are three recent developments that are already targeted for commercial application?
Answer:
    1. A naturally occurring hormone for cattle that increases milk production per cow by one-fifth or more from levels occurring under current production programs.
    2. A growth stimulant for swine that may increase feed conversion efficiency by up to one-fifth or more from levels typical in current feeding programs.
    3. Embryo transfer.

3. What are five potential developments in crop biotechnology?
Answer: Tolerance to drought
Nitrogen fixation ability
Hybrid soybeans
Cold, frost, insects, and lodging resistance
Reduced need for pesticides

4. What do you think would be the effect of application of such technology?
Answer: This is a very subjective question but pros and cons to be considered are; economic considerations, social considerations, political, societal, etc.:

    Pro: Current farms could become more cost efficient and thus more profitable by applying the technology. Food costs can remain low and thus more people will remain fed. Others?

    Con: One-fifth fewer cows would be needed and thus reduce the need for smaller, inefficient dairies. Only larger operations will usually apply the technology needed as they would better resources available to do so. Reduced consumption of world grain.

5. If you were in charge of the U.S.D.A., what would you do regarding biotechnology and why?
Answer: The sky is the limit here!!!

6. Why do you think that biotechnology in grain production has lagged behind that of livestock?
Answer: Possibly because it has been easier to implement improvement of standard breeding programs more quickly with plants than livestock.

IOWA STATE'S MEAT EXPORT RESEARCH CENTER

The Meat Export Research Center (MERC), established four years ago, strives to strengthen Iowa's agricultural economy by increasing exports of meat and meat products.

Created in 1984, MERC comprises the Departments of Animal Science, Economics, Food Technology, Food and Nutrition, and Sociology.

Dr. Dennis Olson, Professor-in-Charge of MERC, has a faculty and staff of 20 persons plus 20 graduate students. Another 33 faculty and graduate positions are planned.

MERC has six objectives:

- Assess demand characteristics of international meat markets
- Evaluate public policy alternatives related to international meat trade
- Assess cultural and legal issues related to meat exports
- Develop meat products and processing technologies to support and expand exports of meat products
- Provide continuous information concerning the export of meat products, and
- Create educational programs for training in meat export sciences

MERC research includes efforts to increase the shelf life of fresh products, develop additional uses for animal and carcass by-products, develop new products or modify existing products for export, conduct consumer surveys in export markets and conduct international market analyses.

MERC's pork research efforts have focused on the Pacific Rim Countries, Latin America, and the Caribbean, ways to increase consumer demand and use of pork, and consumer reaction to irradiation.

Dr. Olson and his staff identified potential U.S. pork export markets in Singapore, discussed meat export policies with the European Economic Community, discussed with Japanese housewives cultural and consumer concerns of buying imported meat, and delivered various meat products to Chile.

IOWA STATE'S FOOD CROPS CENTER WORKS TO EXPAND FOREIGN MARKETS

The Food Crops Processing Research Center (FCPRC) based at Iowa State University seeks innovative ways to process and market familiar products.

Created in 1984, the FCPRC works to expand markets for corn, soybeans, and oats grown in Iowa and the Midwest. Specifically, the Center is developing new technologies to use these crops, providing a technology distribution center for processors, export customers, and foreign scientists and visitors.

The Center, which is administered through the Department of Food Technology and the College of Agriculture, works with extension and industry personnel to expand demand for raw and processed crops in the international marketplace.

In the future higher petroleum prices and agricultural surpluses are expected. As a result, the Center has begun examining the potential of alternative crops and special technologies for processing agricultural products to replace petrochemical products. Staff personnel are experimenting with various techniques to increase the marketability of agriculture products and add value to existing products.

Dr. Larry Johnson, Professor-in-Charge of the Center, is working on ways to extract high-purity vegetable oil by using alcohol which results in a purer form of oil. Dr. Johnson is also studying ways to extract oil from certain seeds at a faster rate than now is possible. This would result in greater plant processing capacity and lower energy costs.

Elsewhere, Dr. Earl Hammond in Food Technology is working with liquid carbon dioxide as an alternative solvent for extracting oil from soybeans and other crops.

Professor Mark Love has successfully produced nutritionally improved snack foods from high protein mixtures of soy and corn meal that contain no added sodium, salts, or fats. Dr. Love is also investigating methods of producing instant corn masa. Such a product would reduce the cost of producing this basic ingredient in many Mexican foods.

Drs. Patricia Murphy and Kenneth Hsu are investigating ways to make Vitamin A more stable in food products which could improve nutritional levels among children of the Third World. The work focuses on methods of fortifying salt and monosodium glutamate - condiments common in the Third World.

The Center plans further expansion. A National Center for Food and Industrial Agricultural Product Development has been proposed. The proposed center would be aimed at developing new products and processes to help make American agriculture more competitive in the international marketplace. The United States Department of Agriculture (USDA) appointed a panel to study the proposal. The group, comprising representatives from the private and public sector, concluded the proposal is feasible.

CORN PROMOTION CHECKOFF REVENUE

STATE	CHECKOFF	ANNUAL REVENUE
IOWA	$0.0025	$2,500,000
ILLINOIS	0.0025	2,000,000
NEBRASKA	0.0015	875,000
NORTH CAROLINA	0.005	300,000
KANSAS	0.0033	125,000
VIRGINIA	0.0025	60,000
WISCONSIN	0.001	120,000
MISSOURI	0.005	450,000
LOUISIANA	0.005	250,000
ALABAMA	0.01	15,000

* APPROXIMATE FIGURES

UNIT 6
Lesson 2
VM 2

RESEARCH IS THE BASIC FOUNDATION OF AGRICULTURE

DEVELOPMENTS AS A RESULT OF RESEARCH HAVE LED TO INCREASED PRODUCTION AND UTILIZATION OF CORN. TODAY'S SUCCESSES WERE PURCHASED WITH THE EFFORTS OF YESTERDAY'S RESEARCH. THE RESEARCH PAID FOR TODAY MAY YIELD GREAT RETURNS TOMMORROW. AS RESEARCH COMES UP WITH ANSWERS, PROFITABILITY OF CORN GROWERS IS IMPROVED.

Potential New Corn Uses

Crystalline Fructose

Low-Calorie Corn Sweetener

Chemical Compounds

Chemical Encapsulation

Coal Desulfurization

CMA as a Road De-Icer

Biodegradable Plastics

Iowa Corn Promotion Board

Unit 6
Lesson 2
VM-4

SOYBEANS

OIL PRODUCTS

GLYCEROL
FATTY ACIDS
STEROLS

REFINED SOY OIL
EDIBLE USES
- Cooking Oil
- Mayonnaise
- Margarine
- Pharmaceuticals
- Salad Dressing
- Salad Oils
- Sandwich spreads
- Vegetable Shortening
- Mellorine
- Medicinals
- Filled Milks
- Coffee Whiteners
- Creamers
- Liquid Shortening

TECHNICAL USES

- Caulking Compounds
- Core Oils
- Disinfectants
- Electrical Insulation
- Insecticides
- Fungicides
- Herbicides
- Pesticides
- Linoleum Backing
- Oiled Fabrics
- Printing Inks
- Protective Coatings
- Plasticizers
- Putty
- Soap
- Tin & Terne Plate Oils
- Waterproof Cement
- Wallboard Mfr.

SOYBEAN LECITHIN

- Emulsifying Agent
  - Bakery Products
  - Candy Products
  - Chocolate Coating
  - Pharmaceuticals
- Nutritional
  - Medical Use
  - Dietary Use
- Anti-Spattering Agent
  - Margarine Mfr.
- Stabilizing Agent
  - Shortening
- Anti-Foam Agent
  - Yeast Mfr.
  - Alcohol Mfr.
- Dispersing Agent
  - Paint Mfr.
  - Ink Mfr.
  - Insecticides
  - Rubber Mfr.
- Wetting Agent
  - Cosmetics
  - Pigments(Paint)
  - Calf Milk Replacer

SOYBEANS

WHOLE SOYBEAN PRODUCTS

BAKED SOYBEANS
SEED
SOY SPROUTS
STOCK FEEDS
FULL FAT SOY FLOUR

Bread
Candy
Doughnut Mix
Pancake Flour
Pan Grease Extender
Pie Crust
Sweet Goods
Low- Cost Gruels
Infant Milk Drinks

ROASTED SOYBEANS
Candy Ingredient
Confection
Cookie Ingredient
Cracker Ingredient
Fountain Topping
Soy Coffee
Soynut Butter
Sprite Base
Dietary Items

SOYBEAND DERIVATIVES
Oriental Foods

Unit 6
Lesson 2
VM 4B

SOYBEANS

SOYBEAN MEAL PRODUCTS

SOY FLOUR CONCENTRATES

EDIBLE USES

- Bakery ingredient
- Alimentary Pastes
- Noodles
- Meat Products
- Cereals
- Prepared Mixes
- Food Drink
- Baby Food
- Hypo-Allergenic Milk
- Confections
- Candy Products
- Special Diet Foods
- Meat Analogs

INDUSTRIAL USES

- Adhesive
- Plywood
- Wallboard
- Insecticidal Sprays
- Partical Board
- Tape Joint Cements
- Linoleum Backing
- Texture Paints
- Nutrient
- Yeast
- Antibiotic
- Beer & Ale

FEED USES

- Calf Milk Replacer
- Livestock Feeds
- Poultry Feeds
- Protein Concentrate
- Pet Foods
- Fox&Mink Feeds
- Fish Food
- Bee Foods